AUTHOR INDEX TO VOLUME 23

A

Abadi, P., 267
Adamson, L.A., 1005
Aherne, F.X., 1113
Ahrens, R.A., 355
Akinyele, I.O., 537
Alaviuhkola, T., 793
Allam, H., 705, 901
Aoyama, Y., 545
Ashida, K., 545
Ashraf, M., 739, 813

B

Babu, S., 629
Bache, C.A., 499
Bachevalier, J., 617
Baker, H., 669
Balakrishnamurthy, P., 321
Bapurao, S., 785
Beitz, D.C., 37, 723
Berry, J.W., 1
Berry-Lortsch, E., 505
Bhaskaram, P., 321
Biesele, M.M., 427
Blumenthal, D.S., 327, 377
Boila, R.J., 1113
Bondi, A., 993
Borchers, R.L., 865, 877, 1055
Botez, M.I., 617
Box, B., 411
Bressani, R., 585
Buttolph, M.L., 1043

C

Calvert, C.C., 29
Chevallier, F., 689
Collins, G.E., 327, 377
Conge, G., 679
Crenshaw, T.D., 189
Crouse, J.D., 81
Cunningham, J.J., 205
Czajka-Narins, D., 597

D

Dako, D.Y., 181
Damron, B.L., 245
Davis, G.R.F., 1105
Decken, v.d., A., 565
Deitemeyer, D., 1089
Delgado, H., 585
Demarne, Y., 1095
Derr, R.F., 749
deVet, H.C.W., 653
Dhopeshwarkar, G.A., 1063
Disney, G.W., 127
Donaldson, W.E., 95
Doss, J.G., 499
Dreher, M.L., 1
Driskell, J.A., 963
Dutta, P., 923

E

Ebihara, K., 577, 985, 1139, 1145
Edwards, C.H., 1005
Ekpenyong, T.E., 865, 877, 1055
Elfas, L., 585
Ellwood, K.C., 261
El-Naggar, B., 705, 901
El-Negoumy, A.M., 29
Erdman, J.W., Jr., 143, 755
Eskeland, B., 155
Eslick, R.F., 29
Evenson, J.K., 303

F

Faraji, B., 267
Fatma, M., 437, 485
Fay, D.C., 963
Flint, D.M., 939
Flynn, M.A., 923
Ford, J.J., 1129
Fox, H.M., 485, 841, 975

Frank, O., 669
Franzen, L., 755
Frape, D.L., 163, 171

G

Gaafar, S., 901
Gardner, L.B., 261
Garrido, F., 771
Geervani, P., 229, 279
Gerber, L.E., 143
Goldsby, J.B., 327, 377
Goto, S., 645
Gouache, P., 679
Gowda, A.R., 363
Graham, D.L., 813
Granum, P.E., 155
Greger, J.L. 853
Griffith, D.R., 37
Gutenmann, W.H., 499

H

Hagemeier, D.L., 189
Haider, F.G., 1167
Hall, J., 249, 887
Hamalainen, M., 1077
Harms, R.H., 245
Harris, G., 597
Himsworth, R.L., 237
Huang, M.T., 9
Huber, H.G., 127
Hussain, M.A., 537
Hussein, L., 705, 901

I

Inaba, K., 833

J

Jagadeesan, V., 135
Jaya, T.V., 55
Jyothi, E., 799

K

Kanke, Y., 645
Kato, N., 825
Keesey, R.E., 295
Kenney, M.A., 455, 1073
Kies, C., 9, 437, 485, 841, 975, 1123
Kincaid, R.L., 493
Kinney, C.L., 143
Kiriyama, S., 577, 985, 1139, 1145
Klein, R.E., 585
Klevay, L.M., 371
Krishnakumari, K., 229

L

Lacombe, C., 931
Lagrange, P.h., 679
Latshaw, J.D., 71
Leeson, S., 525, 969
Lei, K.Y., 697
Leung, M., 249, 887
Lewis, A.J., 189
Liao, T.H., 763
Lifschitz, F., 557
Lindblad, S., 749
Lisk, D.J., 499
Lo, S.N., 19
Luh, B.S., 805

M

Maag, U., 617
MacNeill, C.A., 327, 377
Madhavapeddi, R., 629
Madrid, A., 89
Maiorino, P.M., 89
Makinen, K.K., 793, 1077
Maliwal, B.P., 419
Man, Y.M., 697
Manabe, M., 985
Martin, R.E., 261
Martorell, R., 585
Mason, R.L., 127
Mason, S.L., 213

Masuhara, R., 577, 985, 1145
Mateos, G.G., 347
Mathe, D., 689
Matsueda, S., 471
Maurer, R.R., 1129
McCoy, J.H., 713
McCracken, C., 327, 377
McIntosh, G.H., 237
McLaughlan, J.M., 1157
Mengheri, E., 55
Menon, N.K., 1063
Mianians, G.T., 1123
Michaelis, O.E., IV, 261
Milligan, L.P., 1113
Misa, T., 1043
Mogenson, G.J., 411
Moore, S., 427
Moragne, L., 1005
Moreau, J.R., 19
Morris, P., 411
Moser, B.D., 189
Muindi, P.J., 391
Muztar, A.J., 465

N

Nader, C.J., 113
Nakayama, T., 103, 401
Nasi, M., 793
Naslund, B., 565
Neelakumari, S., 629, 637
Newberne, P.M., 1043
Newman, C.W., 29
Newmark, S.R., 151
Nibbelink, M., 931
Nichaman, M.Z., 327, 377
Niiyama, Y., 471
Nino, H.V., 327
Nissen, S., 813
Nnanyelugo, D.O., 945
Nonavinakere, V.K., 697

O

Obizoba, I.C., 447, 915
Odum, P.K., 1005
Ohnaka, M., 471
Ohno, T., 609
Ojofeitimi, E.O., 355
Okasaki, S., 471
Omole, T.A., 729
Omoloko, C., 1021, 1035

P

Panth, M., 629
Parker, C.M., 43
Pauling, L., 669
Peng, Y.S., 303
Pennell, M.D., 249, 887
Peo, E.R., Jr., 189
Perretta, M., 771
Pickett, E.E., 923
Pivaral, V.M., 585
Pond, W.G., 81, 1129
de Portela, M.L.P.M., 197
Potter, J.D., 113
Poutiainen, E., 1077
Prather, E.S., 355
Prema, K., 135, 629, 637
Puchal, F., 347
Pushpamma, P., 229

R

Rakshit, A.K., 1035
Ramalakshmi, B.A., 629, 637
Rao, P.B.R., 531
Rashad, L., 705
Reddy, B.S., 653
Reddy, P.R., 799
Reid, B.L., 89
Reinhold, J.G., 267
Richards, B., 939
Richmond, W., 237
Rio, M.E., 197
Ritchey, S.J., 219
Riyad, S., 705
Rundgren, M., 391
Russell, D.H., 303

S

Sable-Amplis, R., 505
Sacquet, E., 1095
Salomons, M.O., 1113
Samyukta, S., 629
Sanahuja, J.C., 197
Sarwar, G., 1157
Satyanarayana, M.N., 871
Scarino, M.L., 55
Scheerens, J.C., 1
Schemmel, R., 597
Schiefer, H.B., 1105
Scott, R.A., 81
Sears, M., 763
Seebag, M., 1035
Sharma, C., 653
Slinger, S.J., 465
Smith, G.G., 43
Snedeker, S.M., 853
Soares, J.H., Jr., 205
Somers, P.M., 219
Sonaiya, E.B., 729
Spadoni, M.A., 55
Spiller, G.A., 313
Sprince, H., 43
Srinivasan, M.R., 871
Srivastava, U.S., 1021, 1035
Stern, J.S., 295
St-Laurent, G., 19
Stone, M., 597
Subbiah, M.T.R., 1089
Subramanian, C.S., 1063
Summers, J.D., 525, 969
Sundaresh, C.S., 531
Suzuki, K., 645
Szepesi, B., 763

T

Tabekhia, M.M., 805
Taper, L.J., 119, 219
Tasaki, I., 661
Thakur, M.L., 1035
Theophilus, F., 279
Tipton, C.L., 723
Toma, R.B., 805
Tovrea, T., 723
Trankina, M.L., 37
Tulpule, P.G., 785
Tuori, M., 1077

U

Ueda, H., 661
Unver, B., 841

V

Vaidehi, M.P., 363
Valverde, V., 585
Vetter, R.L., 739, 813
Vignolini, F., 55
Voitle, R.A., 245

W

Wahlqvist, M.L., 939
Wang, Y.Y.D., 103, 401
Wapnir, R.A., 557
Ward, L.C., 213
Ware, D.R., 37
Wayman, B.J., 163, 171
Weber, C.W., 1
Weingartner, K.E., 755
Weller, R.A., 113
Whitehurst, G., 723
Wilkinson, J., 163, 171
Wilson, H.R., 245
Wise, A., 287
Worthington, R.E., 401

Y

Yanez, E., 771
Yen, J.T., 81, 1129
Yeung, D.L., 249, 887
Yew, M.S., 427
Yokogoshi, H., 517, 833
Yokota, H., 661
Yoshida, A., 517, 545, 825, 833
Youngs, W.D., 499
Yunker, R., 1089

SUBJECT INDEX TO VOLUME 23

A

Absorption,
  efficiency, 143
  intestinal, 557
Acetaldehyde, 43
Adenine,
  nucleosides, 1035
  nucleotides, 1021
Adenosine deaminase, 531
Adipose, cellularity, 295
Aflatoxin, 163, 171
Agar gel diets, 143
Agglutination, 865
Alcohol, consumption, 427
Alkaloids, 391
Amaranth, toxicity, 1139
Amino acid(s), (see also specific amino acid)
  composition, 877
  _____, in rice, 805
  dietary level, 545
  endogenous, 517
  excretion, endogenous, 465
  _____, fecal, 465
  hepatic, 609
  imbalance, 197, 213
  limiting, 517
  _____, first, 785
  sulfur, 71, 853
  supplementation, 447, 785, 915
  toxicity, 303
α-Amylase, inhibitors, 155
Anemia, women, 637
Anthropometric measurements, adults and elderly, 229
Anti-adrenergic agents, 43
Antihelmintic treatment, children, 901
Antitrypsin, 865
Aortic, prostaglandin synthesis, 1089
Appetite control, 151
Apples, 505
Ascariasis, in children, 901
Ascorbate, 669
Ascorbic acid, 43
Astringents, 557
Autoclaving, effect on chemical composition, 877

B

Baby foods, 249
Barley, 29
BCG, injection in mice, 679
Beans,
  broad, 347
  winged, 865, 877, 1055
Bile, 505
  acid, pools and fecal elimination, 689
Bioassay, using insects, 103
Bioavailability, 189
Biopsy, hair, 371
Biotein, deficiency, 95
Birth, weight, infants, 637
Bisulfite liquor, 19
Black pepper, 871
Blood, cells, magnesium deficiency, 455
Body, composition, 119
Brain,
  composition, 197
  growth, 597
  protein, synthesis, 471
Bread, 267
Breast feeding, 249
Breed, difference, 81
Buffalo gourd, 1

C

Caerulein, 151
Caffeine, 43
Calcium,
  appetite in hens, 525
  bioavailability, 755

Caramel, 1043
Carbohydrates, 557
  dietary, 261
Carboxymethyl cellulose, 1145
Cassava,
  grits, 355
  peel meal, 729
Cecal enlargement, 1043
Cell-mediated immune response, 679
Cereal, cooked, 363
Chicken, 609
  laying, 71
Children,
  height and weight, Nigerian, 537
  preschool, 279
Cholesterol, 825
  dietary, 689
  metabolism, 55
  synthesis, effect of diet, 1113
Choline, 545
Chromium, 219
Cigarette smoking, 887
Cockerels, 465
Contraceptive, oral, 697
Copper, 371, 493
Coprophagy, 755
Corn, 499
  oil, 411
opaque-2, 585
Cows, 493, 1077
Creatinine,
  height index, 537
  urine, 127
Cucurbita, 1
Cultivars, green gram, 1167
Cysteine, 43

D

Diet,
  and mutagens in humans, 653
  balanced, in rabbits, 931
  change, 1123
  human, fecal extracts, 113
  self-selection, hens, 525
  laboratory animals, 287
Dietary,
  carbohydrate, 261
  fiber, 267, 313, 577, 985, 1139, 1145
  patterns, human, 229
  restriction, 1021, 1035
  survey, 437, 585
Digestibility, 1, 799, 877
  apparent, 19
Dimethylnitrosamine, 565
DNA,
  damage, 113
  liver, 963
  muscle, 945
  repair, 321
Dopamine, 43
Drugs, depressants, 763

E

Elderly, anthropometric and dietary patterns, 229
Elements, trace, metabolism, 853
Energy,
  poultry, 969
  metabolism, 915
  utilization, 89, 661
Enzyme, 609
  (see also specific enzyme)
  α-amylase, 155
  adenosine deaminase, 531
  creatine phosphokinase, 81
Erythrocyte, ghosts, 205
Ethanol, 939
Extrusion, cereal, 363

F

Faba bean, 55
Fat, digestibility in poultry, 969
Fatty acids, 401
  composition, 1095
  essential, deficiency, 1063
Feces,

human, 113
monkeys, 313
Feed, intake restriction, 81
Ferrous sulfate, dosages, 901
Fiber,
dietary, 267, 313, 577, 985, 1139, 1145
level, 1157
Flora, gastrointestinal, 1095
Folic acid, deficiency, 617
Food,
efficiency, 763
habits, 1123
intake, 939
practices, Pakistan
weaning, 1005
Forced-feeding, in chicks, 661

G

Gastric, emptying, 1145
Genetics, 171
hypertension, 261
Germination, 799
Gestation, energy, 1129
Ghana, diet, 181
Giardiasis, effect on hemoglobin lever in children, 901
Glucose,
tolerance, 577, 985, 1145
transport, 723
Glycogen, tissue, 1129
Growth, 871
brain, 596
catch-up, in rats, 471
infant, 887
muscle protein, 945
promotion, 37
young girls, 713

H

Hair, copper, 371
Hamsters, 505
Healing, 749
Hemoglobin, 629
levels, in parasitised children, 901
Hens, laying, 89, 525
Hide, beetles, 103
Holocellulose, 1139
Hypercholesterolemia, 55, 237
Hypertension,
arterial, 411
genetic, 261
Hypothalamic obesity, in rats, 295

I

Imbalance, 197
Immunoglobulins, serum, 713
Indian,
blackfeet, nutritional status, 327, 377
meal moth, 401
Infants,
effects of maternal smoking, 887
Nigerian diet, 1005
nutrition, 249
Infection, 219
Inhibition, competitive, 1063
Insect, 401
Insulin, 723
Iron,
absorption, 267
level in parasitised children, 901

K

Kalina, 391
Kidney, copper, 371
Konjac mannan, 577, 1145

L

Lactation, women, 135
Leaf,
cocoyam, 181
protein concentration, 419
Learning, 617
Lecithin, 969
Legume, 279, 437, 785, 799
nutritional evaluation, 1167

Leukocytes, 531, 1073
Lipid, oxidation, 419
Lipogenesis, 95
Lipoprotein, 931
  high density, 825
Liver,
  lipid, 545, 871, 1095
  RNA synthesis, 565
Lupin, seeds, 391
Lysine, 7, 71
  dietary, 1157

M

Magnesium,
  deficiency, 1073
  dietary intake in girls, 127
  status, 455
Malnutrition, rats, 531
Management, hens, 89
Marmosets, 237
Mealworm, yellow, 1105
____-feeding, 833
Meat, fried, 653
Medroxyprogesterone acetate, 923
Mega-ascorbate, 669
Mercury, dietary, 95
Mestranol, 697
Metals, heavy, absorption, 499
Methanol, 739, 813
Methionine, 517
  excess, 661
  supplementation, 485, 771, 729 915
  toxicity, 303
Milk,
  cows, 1077
  human, 135
  sow, 793
Mineral(s), (see also specific mineral)
  interactions, 1043
  tissue concentrations, 923
  utilization, 645
Monkeys,
  marmosets, 237
  pigtailed, 313
Multigeneration, nutritional evaluation, 813
Mutagens and co-mutagens, 653
Mycotoxins, 1105
Myocardial copper, 371

N

Net protein ratio, 1157
Niacin, 841, 975
Nicotine, 43
Nicotinic acid, 1089
Nitrogen,
  balance, 279
  utilization, 447, 661
Norethindrone, 697
Nucleic acids, 963, 1021, 1035
Nucleotides, 1035
Nutrition, 401
  parenteral, 749
_____al,
  damage, 419
  deficiency, 455
  status, 9
    blackfeet indians, 327, 377
  young girls, 713

O

Obesity,
  dietary, 597
  experimental, 679
Obstetrics, outcome, 637
Oil, corn, 411
Oleate, excess, 1063
Ophiobolin A, 723
Organophosphate, 37

P

Pakistan, 437
Pancreas, 155
Pantothenic acid, 9, 975
Parenteral nutrition, 749
Peanut, 447

Pectin, 1145
viscosity, 985
Phosphorus, 163, 189, 853
Pigs, 81, 347
Pigeon, 1089
Piperine, 871
Plasma, glucose-flattening activity, 577
Polyol, 1077
feeding, 793
Polyphenols, 419
Polysome, patterns, 833
Potassium acetate, supplementation, 447
Poultry, manure in diet, 915
Pregnancy, women, 629
effect of smoking, 887
Processing, effect on trypsin, 1167
Proprionic acid, dietary, 1113
Protein,
cocoyam, 181
composition, in rice, 805
concentration, 1105
content, 963
deficiency, 471
dietary, 163, 565, 853, 1073
_____, level, 609
extraction, 1055
faba bean, 55
interrelationship, 841
leaf concentrate, 419
legume, 279
liquid, 119
metabolism, 1021, 1035
_____, ruminants, 993
quality, 279, 363, 391, 1157
_____, bioassay, 103
_____, dietary, 833
retinol-binding, 697
requirements, 585
supplementation, 729
turnover, 945
utilization, 645, 739
value, 975
vegetable, 355
_____, supplement, 1005
Protein efficiency ratio, 19, 355, 771
Protein energy malnutrition, 321
Pyridoxic acid, excretion, 785

Q

Quail, 213

R

Rabbits, 729, 931
Reproduction,
in rats, 739
__ turkeys, 245
Retinol,
concentration, in children, 705
excess, 303
Retinol-binding protein, 697
Rice, 447
amino acid composition, 805
RNA,
liver, 963
muscle, 945
polymerases, 771
Ronnel, 37
Rose bengal staining, 705
Ruminants, 993

S

Selenium, 245
Serum creatine phosphokinase, 81
Single-cell micro-organisms, 19
Sludge, 499
Sodium chloride, 411
Solids, infant feedings, 249
Soy, 841
flour, 755
Starch, 1, 645
amylose, 29
in legumes, 799
Sucrose, 261
Swine, 29, 189, 1113
fetus, 1129

T

Tenebrio molitor, 1105
Thiamine, 617
Threonine, 517
Thrombocyte, prostaglandin synthesis, 1089
L-Thyroxine, 689
α-Tocopherol, 171
Tocopherol, levels, 205
Toxicity, methionine, 303
Trypsin, inhibitor, 1167
Tryptophan, load, 785
Tularemia, 219
Turkeys, 245

U

Undernutrition, in rats, 923
Unscheduled, DNA synthesis, 321
Urine, creatinine excretion, 127, 537

V

Valine, oxidation, 213
Vitamin(s), (see also specific vitamin)
  A, 142, 427, 697
    nutritional status, 705
  B_6, 9
    excess, 963
    nutritional status, 785
  B_{12}, 669
  C, 427, 669
    deficiency, 237
  E, 135, 205

W

Weaning food, 1005
Weight gain, 763
Wheat, 155, 975
Winged bean, 865, 877, 1055

X

Xenobiotics, 825

Y

Yeast, single-cell protein, 739, 813

Z

Zinc, 371, 493, 939

Vol. 23 1981
January - June
ISSN 0029-6635

NUTRITION REPORTS INTERNATIONAL

ANTHONY A. ALBANESE, Ph.D.
Editor-in-Chief

Publisher: GERON-X, INC., LOS ALTOS, CALIF.

NUTRITION REPORTS INTERNATIONAL
Anthony A. Albanese, Ph.D., Editor-in-Chief
Dorothy N. Zavattaro, Managing Editor
Nutrition & Metabolic Research Division
Burke Rehabilitation Center
White Plains, New York 10605

BOARD OF ASSOCIATE EDITORS

Dr. Kiyoshi Ashida, Professor
Nutritional Biochemistry
Nagoya University
Laboratory Food & Nutrition
Nagoya, JAPAN

Prof. A. A. Bondi
Faculty of Agriculture
The Hebrew University of Jerusalem
P.O. Box 12, Rehovot, ISRAEL

Dr. Harold H. Draper
Department of Nutrition
College of Biological Sciences
University of Guelph
Guelph, Ontario, Canada N1G 2W1

Hans Fisher, Ph.D., Professor
Chairman, Department of Nutrition
Rutgers The State University
New Brunswick, New Jersey 08903

Nestor W. Flodin, Ph.D.
Department of Biochemistry
University of South Alabama
College of Medicine
Mobile, Alabama 36688

R. M. Forbes, Ph.D., Professor
Department of Animal Science
College of Agriculture
University of Illinois
Urbana, Illinois 61801

Dr. Sven Froberg
Ersta Sjukhus
Fjallgatan 44-50
S-166 35, Stockholm, SWEDEN

Dr. Osman M. Galal
Nutrition Department
National Research Center
el-Tahrir Str., Dokki
Cairo, EGYPT

Robert S. Goodhart, M.D., Exec. Sec.
Committee of Medical Education
The New York Academy of Medicine
New York, New York 10029

Dr. Ervin J. Hawrylewicz
Director of Research
Mercy Hospital and Medical Center
Stevenson Expressway at King Drive
Chicago, Illinois 60616

MUDr. Stanislav Hejda CSc
Institute of Hygiene and
Epidemology
Research Center of Food and Nutrition
Srobarova 48, Prague 10
CZECHOSLOVAKIA

Basil S. Hetzel, MD, FRCP, FRACP
Chief, Division of Human Nutrition
Commonwealth Scientific and Industrial
Research Organization
Kintore Avenue
Adelaide, SA 5000, AUSTRALIA

Andie M. Hueh, Sc.D.
Department of Nutrition and
Food Science
College of Nutrition, Textiles and
Human Development
Texas Woman's University
Denton, Texas 76204

Dr. Werner G. Jaffe
Instituto National de Nutricion
Apartado 2949
Caracas, VENEZUELA

G. Richard Janoen, Ph.D.
Department of Food Science
and Nutrition
Colorado State University
Fort Collins, Colorado 80523

Dr. Shuhachi Kiriyama
Department of Agricultural Chemistry
Faculty of Agriculture, Ehime University
Tarumi 3-5-7, Matsuyama, JAPAN

David Kritchevsky, Ph.D.
Member, The Wistar Institute
36th Street at Spruce
Philadelphia, Pennsylvania 19104

MUDr. Eduard Kuhn, Dr. Sc.
Institute of Human Nutrition
Budejovicka 800
Prague 4, CZECHOSLOVAKIA

Dr. Paul A. Lachance
Cook College
Department of Food Science
Rutgers University
New Brunswick, New Jersey 08903

Prof. Dr. Claus Leitzmann
Institut fur Ernahrungswissenschaft
Justus-Liebig-Universitat
Wilhelmstrasse 20
D-6300 Giessen, GERMANY

Dr. Ian Macdonald
Department of Physiology
Guy's Hospital Medical School
London, S.E.1, ENGLAND

Daniel Melnick, Ph.D.
Department of Chemistry
Florida Atlantic University
Boca Raton, Florida 33432

Dr. Paul M. Newberne
Department of Nutrition and Food
Science
Massachusetts Institute of Technology
Cambridge, Massachusetts 01239

Louise A. Orto, M.S.
Director, Clinical Laboratory
Burke Rehabilitation Center
White Plains, New York 10605

Board of Associate Editors (continued)

Bernard L. Oser, Ph.D.
108-18 Queens Boulevard
Forest Hills, New York 11375

Prof. Dr. A. Pokrovsky
Institute of Nutrition
Utinski proezd, 2 14
Moscow, U.S.S.R.

Dr. Raymond Reiser
Dept. of Biochemistry and Biophysics
Texas A & M University
College Station, Texas 77843

Dr. A. Rerat
Institute National de la Recherche Agronomique
Laboratoire de Physiologie de la Nutrition
78350 Jouy-en-Josas, FRANCE

Dr. Juan C. Sanahuja, Director
Department of Nutrition and Food Science
University of Buenos Aires
Junin 956, Buenos Aires 1113,
ARGENTINA

Dr. Gunay Saner
Department of Pediatrics
Faculty of Medicine
University of Istanbul
Capa, Instanbul, TURKEY

B.G. Shah, Ph.D.
Nutrition Research Division
F.B. Research Centre
Health Protection Branch
Tunney's Pasture
Ottawa, Ontario, Canada K1A 0L2

Prof. M. Antonietta Spadoni
Istintuo Nazionale della Nutrizione
Via G.M. Lancisi, 27-29
Roma, ITALY

Herbert Sprince, Ph.D.
Chief, Research Biochemistry
Veterans Administration Hospital
Coatesville, Pennsylvania 19320

Dr. M. Swaminathan, Emeritus Scientist
Discipline of Biochemistry and Applied Nutrition
Central Food Tech, Research Institute
Mysore 570 013, INDIA

Dr. David A. Vaughan
8533 Pineway Drive
Laurel, Maryland 20810

Roger J. Williams, Ph.D.
Department of Chemistry
The University of Texas at Austin
Austin, Texas 78712

Dr. Salvador Zubiran, Director
Instituto Nacional de la Nutricion
Mexico, D.F., MEXICO

GUIDE FOR AUTHORS

NRI invites concise reports of original research in the area of clinical and experimental nutrition. The purpose of NRI is to provide a medium for the rapid communication of advances and newer knowledge of nutrition, nutritional biochemistry and food science. Publication of original reports on all aspects of nutrition, within 90 days of manuscript receipt is anticipated. Authors will be advised of disposition of the manuscript within 30 days of its receipt. Manuscripts should be sent to: –

Anthony A. Albanese, Ph.D.
Editor-in-Chief
Nutrition Reports International
The Burke Rehabilitation Center
White Plains, New York 10605

Authors outside the United States should address manuscripts to a corresponding editor in their own country. Authors in countries not represented by a corresponding editor should send their manuscripts directly to the Editor-in-Chief.

Guide for Authors and Typing Form are available upon request from the Editors.

©1981, Geron-X, Inc.

NUTRITION REPORTS INTERNATIONAL is published monthly by Geron-X, Inc.,
Box 1108, Los Altos, California 94022, USA
(415) 493-0871

Two volumes per year

Personal subscription	$ 70 per year
Institutional subscription	$110 per year
Add $10 for surface postage outside USA	
Add $24 for airmail USA. Add $40 for airmail outside USA	
Individual issues	$ 10 each

Second-class postage paid at Los Altos, Calif. and at additional mailing office.

IN THIS VOLUME REPORTS PUBLISHED FROM:

ARGENTINA	IRAN
AUSTRALIA	ISRAEL
CANADA	ITALY
CHILE	JAPAN
ENGLAND	NIGERIA
EGYPT	NORWAY
FINLAND	PAKISTAN
FRANCE	SPAIN
GHANA	SWEDEN
GUATEMALA	UNITED STATES
INDIA	

NUTRITION REPORTS INTERNATIONAL
Volume 23, Number 1 January 1981

ORIGINAL ARTICLES

Nutritional Evaluation of Buffalo Gourd Root Starch
M.L. Dreher, J.C. Scheerens, C.W. Weber and J.W. Berry 1

Vitamin B_6 Nutritional Status of Several Strains of Mice and Rats as Affected by Pantothenic Acid Deficiency
M.T. Huang and C. Kies 9

Nutritive Value of Mixed Culture Single-Cell Protein From Waste Bisulfite Liquor
S.N. Lo, G. St-Laurent and J.R. Moreau 19

High Amylose Glacier Barley in Swine Diets
C.C. Calvert, C.W. Newman, A.M. El-Negoumy and R.F. Eslick 29

Effects of an Organophosphate, Ronnel, on Growth in Male Rats
M.L. Trankina, D.X. Boitz, D.R. Griffith and D.R. Ware 37

Lethal Synergy of Acetaldehyde with Nicotine, Caffeine, or Dopamine in Rats: Protection by Ascorbic Acid, Cysteine, and Anti-Adrenergic Agents
H. Sprince, C.M. Parker and G.G. Smith 43

Evaluation of Hypocholesterolemic Effect of Faba Bean Protein Concentrate on Rats Fed a High-Fat-High-Cholesterol Diet
T.V. Jaya, E. Mengheri, M.L. Scarino, F. Vignolini and M.A. Spadoni 55

The Primary Importance of Amino Acid Levels and Secondary Importance of Protein Levels in Practical Layer Feeds
J.D. Latshaw 71

Effects of Feed Intake Restriction and Breed on Performance, Carcass Characteristics and Serum Creatine Phosphokinase Activity in Pigs
J.T. Yen, R.A. Scott, W.G. Pond and J.D. Crouse 81

Cage Density and Energy Utilization
A. Madrid, P.M. Maiorino and B.L. Reid 89

Biotin Deficiency and Lipogenesis in Chicks: Paradoxical Stimulation of Lipogenesis by Dietary Mercury
W.E. Donaldson 95

Using Dermestes maculatus Degeer (Hide Beetle) for Protein Quality Evaluation
Y.Y. David Wang and T. Nakayama 103

Diet and DNA-Modifying Activity in Human Fecal Extracts
C.J. Nader, J.D. Potter and R.A. Weller 113

The Effect of Liquid and Powdered Protein Diets on Body Composition in Rats
L.J. Taper 119

Urinary Excretion and Dietary Intake of Magnesium in Girls
H.G. Huber, G.W. Disney and R.L. Mason 127

Lactation and Vitamin E Status: Relationship Between Plasma and Milk Levels at Different Lactational Periods
V. Jagadeesan and K. Prema 135

Absorption Efficiency of Vitamin A from Agar Gel Diets
C.L. Kinney, L.E. Gerber and J.W. Erdman, Jr. 143

Caerulein Inhibits Food Intake in the Rat and the Mouse
S.R. Newmark 151

Nutritional Significance of α-Amylase Inhibitors from Wheat
P.E. Granum and B. Eskeland 155

Diet and Aflatoxicosis in the Weanling Male Rat. I. The Effect of Inadequate Phosphorus
D.L. Frape, B.J. Wayman and J. Wilkinson 163

Diet and Aflatoxicosis in the Weanling Male Rat. II. The Effect of Vitamin E and Strain of Rat
D.L. Frape, B.J. Wayman and J. Wilkinson 171

Potential of Dehydrated Leaves and Cocoyam Leaf Protein in the Ghanaian Diet
D.Y. Dako 181

NUTRITION REPORTS INTERNATIONAL
Volume 23, Number 2 February 1981

ORIGINAL ARTICLES

The Bioavailability of Phosphorus From Defluorinated Rock Phosphate for Growing-Finishing Swine
D.L. Hagemeier, E.R. Peo, Jr., T.D. Crenshaw, A.J. Lewis and B.D. Moser 189

Brain Composition of Rats Fed Natural Amino Acid Imbalanced Proteins from Weaning
M.L.P.M. de Portela, M.E. Rio and J.C. Sanahuja 197

Erythrocyte Ghost Tocopherol Levels in Chicks Deficient or Sufficient in Vitamin E
J.J. Cunningham and J.H. Soares, Jr. 205

Branched Chain Amino Acid Metabolism in the Japanese Quail. II. Amino Acid Oxidation in vivo
S.L. Mason and L.C. Ward 213

Induced Tularemia in the Rat: Effect on Serum and Liver Chromium Concentration
P.M. Somers, L.J. Taper and S.J. Ritchey 219

Anthropometric and Dietary Pattern of Adults and Elderly Population of Andhra Pradesh
P. Pushpamma, P. Geervani and K. Krishnakumari 229

Vitamin C Deficiency and Hypercholesterolaemia in Marmoset Monkeys
G.H. McIntosh, W. Richmond and R.L. Himsworth 237

Selenium Supplementation for the Diet of Large White Turkeys Hens
B.L. Damron, H.R. Wilson, R.A. Voitle and R.H. Harms 245

Infant Feeding Practices
D.L. Yeung, M.D. Pennell, M. Leung and J. Hall 249

Effect of Dietary Carbohydrates on Systolic Blood Pressure of Normotensive and Hypertensive Rats
O.E. Michaelis, IV, R. E. Martin, L.B. Gardner and K.C. Ellwood 261

Human Studies of Iron Absorption from Fiber-Rich Iranian Flat Breads
B. Faraji, J.G. Reinhold and P. Abadi 267

Evaluation of Protein Quality of Some Processed Legumes by Nitrogen Balance Studies on Pre School Children
P. Geervani and F. Theophilus 279

The Standard Stock Diet - Fact or Fiction
A. Wise 287

The Effect of Ventromedial Hypothalamic Lesions on Adipose Cell Number in the Rat
J.S. Stern and R.E. Keesey 295

Alleviation of Methionine Toxicity by Glycine and Serine in Rats Pretreated with Excess Retinol
Y.S. Peng, D.H. Russell and J.K. Evenson 303

Effect of Graded Dietary Levels of Plant Fibers on Fecal Output in Pig-Tailed Monkeys
G.A. Spiller 313

Unscheduled DNA Synthesis in Lymphocytes from Malnourished Children
P. Balakrishnamurthy and P. Bhaskaram 321

Nutritional Status of Residents of the Blackfeet Indian Reservation. I. 1973 Nutrition Survey
C.A. MacNeill, D.S. Blumenthal, G.E. Collins, H.V. Nino, J.B. Goldsby, C. McCracken and M.Z. Nichaman 327

Nutritional Value of Broad Beans (Vicia faba L. Major) for Swine
G.G. Mateos and F. Puchal 347

Nutritional Assessment of Cassava Grits in Combination with Cottonseed or Defatted Soybean Proteins
E.O. Ojofeitimi, R.A. Ahrens and E.S. Prather 355

Protein Quality of Extrusion Cooked Cereal Based Weaning Foods in Wistar Strain Albino Rats
M.P. Vaidehi and A.R. Gowda 363

Hair as a Biopsy Material. VI. Hair Copper as an Index of Copper in Heart and Kidney of Rats
L.M. Klevay 371

NUTRITION REPORTS INTERNATIONAL
Volume 23, Number 3 March 1981

ORIGINAL ARTICLES

Nutritional Status of Residents of the Blackfeet Indian Reservation II. Comparison of the Results of the 1961 and 1973 Surveys
D.S. Blumenthal, C.A. MacNeill, G.E. Collins, J.B. Goldsby, C. McCracken, and M.Z. Nichaman 377

Investigations on the Protein Quality and Alkaloid Content of Lupinus albus (L) cv. Kalina Grown in Tanzania
P.J. Muindi and M. Rundgren 391

Using Indian Meal Moth for Evaluating Physiological and Nutritional Consequences of Fatty Acid Isomers
Y.Y.D. Wang, R.E. Worthington and T.O.M. Nakayama 401

NaCl-Induced Arterial Hypertension in Rats: Effect of Varying the Corn Oil Content of the Diet
G.J. Mogenson, P. Morris and B. Box 411

Studies on Storage Stability of Leaf Protein Concentrate (LPC)
B.P. Maliwal 419

Effects of Chronic "Moderate" Alcohol Consumption on Vitamins A and C Status of Male Sprague-Dawley Rats
M.S. Yew, S. Moore and M.M. Biesele 427

Food Practices, Attitudes, and Dietary Adequacy of Legume-Consuming Populations in Lahore, Pakistan
M. Fatma and C. Kies 437

Nitrogen Utilization of Rats Fed Protein Diets Containing Rice and Peanut With Added Amino Acids and Potassium Acetate
I.C. Obizoba 447

Blood Cells in the Magnesium-Deficient Rat Related to Bone Magnesium
M.A. Kenney 455

A Study of the Metabolic Fecal and Endogenous Amino Acid Excretion in Fasted Mature Cockerels with Time
A.J. Muztar and S.J. Slinger 465

Effect of Various Periods of Protein Restriction Immediately After Weaning on Subsequent Catch-Up Growth in Rats
S. Okasaki, S. Matsueda, M. Ohnaka and Y. Niiyama 471

Evaluation of Methionine Supplementation of Legume Based Diets: Biological Approach
M. Fatma, C. Kies and H.M. Fox 485

Factors Associated With the Variation of Copper and Zinc in Plasma of Lactating Cows
R.L. Kincaid 493

Absorption of Heavy Metals From Sludge-Amended Soil by Corn Cultivars
C.A. Bache, W.H. Gutenmann, W.D. Youngs, J.G. Doss and D.J. Lisk 499

Qualitative and Quantitative Changes in Biliary Secretion Induced by Apple Consumption in Hamsters
E. Berry-Lortsch and R. Sable-Amplis 505

Sequence of Limiting Amino Acids for the Utilization of Endogenous Amino Acids in Rats Fed a Protein-Free Diet
H. Yokogoshi and A. Yoshida 517

Diet Self-Selection by Laying Hens of Feeds Separated by Texture
J.D. Summers and S. Leeson 525

Adenosine Deaminase Activity of Leukocytes in Protein-Calorie Malnourished Rats
C.S. Sundaresh and P.B.R. Rao 531

Height, Weight and Creatinine Excretion of Nigerian Children From Distinct Socio-Economic Groups
M.A. Hussain and I.O. Akinyele 537

Effect of Dietary Level of Amino Acids or Choline on Body Weight Gain and Liver Lipid Content in 4 Strains of Rats
Y. Aoyama, A. Yoshida and K. Ashida 545

Weight Gain and Intestinal Absorption of Nutrients in Rats: Effect of Antidiarrheal Agents (Astringents)
R.A. Wapnir and F. Lifshitz 557

NUTRITION REPORTS INTERNATIONAL

Volume 23, Number 4 April 1981

ORIGINAL ARTICLES

Effects of Dietary Protein Conditions on RNA Synthesis in Liver Nuclei From Dimethylnitrosamine Treated Mice
B. Naslund and A.v.d. Decken 565

Effect of Konjac Mannan, A Water-Soluble Dietary Fiber on Plasma Glucose and Insulin Responses in Young Men Undergone Glucose Tolerance Test
K. Ebihara, R. Masuhara and S. Kiriyama 577

The Potential Nutritional Contribution of Opaque-2 Corn
V. Valverde, R. Martorell, H. Delgado, V.M. Pivaral, L. Elias, R. Bressani and R.E. Klein. 585

Cerebellar and Cerebral Growth in Dietary Obesity Resistant and Susceptible Rats
M. Stone, G. Harris, D. Czajka-Narins and R. Schemmel 597

Effect of Dietary Protein Level on Hepatic Amino Acid-Catabolizing Enzyme Activities in Adult Cockerels
T. Ohno 609

Learning Deficits in Folate-Deficient Rats Reversible with Folic Acid or Thiamine Replacement Therapy
J. Bachevalier, M.I. Botez and U. Maag 617

Changes in Haemoglobin Levels During Different Periods of Gestation
K. Prema, B.A. Ramalakshmi, R. Madhavapaddi, S. Samyukta, S. Neelakumari, S. Babu and M. Panth 629

Anaemia and Adverse Obstetric Outcome
K. Prema, S. Neelakumari and B.A. Ramalakshmi 637

Effect of Starches on Protein and Mineral Utilization
K. Suzuki, Y. Kanke and S. Goto 645

Effect of Dietary Fried Meat on Fecal Mutagenic and Co-Mutagenic Activity in Humans
H.C.W. deVet, C. Sharma and B.S. Reddy 653

Energy and Nitrogen Utilization of Chicks Forced-Fed a Methionine-Excess Diet
H. Ueda, H. Yokota and I. Tasaki 661

Mega-Ascorbate Taken with Other Vitamins Permits Elevation of Circulating Vitamins Including B_{12} in Humans
H. Baker, L. Pauling and O. Frank 669

Influence of Three Types of Obesity on Cellular Immunity After BCG and SRBC Injections in Mice
G. Conge, P. Gouache and P.H. Lagrange 679

Effects of Dietary Cholesterol, L Thyroxine, and Various Diets on the Pools and Fecal Elimination of Bile Acids in the Rat
D. Mathe and F. Chevallier 689

Oral Contraceptives, Norethindrone and Mestranol: Effect on Serum Vitamin A, Retinol-Binding Protein and Prealbumin Levels in Women
V.K. Nonavinakere, Y.M. Man and K.Y. Lei 697

The Nutritional Status of Vitamin A Among School Pupils from the Rural, The Use of Plasma Retinol and Rose Bengal Staining as Indicators
L. Hussein, L. Rashad, S. Riyad, B. El-Naggar and H. Allam 705

Physiological, Dietary and Environmental Influences on Serum Immunoglobulin Concentrations in Nine-Year-Old Girls
J.H. McCoy 713

The Effect of Ophiobolin A on Glucose Uptake by Animal Cells
C.L. Tipton, T. Tovrea, G. Whitehurst and D.C. Beitz 723

The Effect of Protein Source and Methionine Supplementation on Cassava Peel Meal Utilization by Growing Rabbits
T.A. Omole and E.B. Sonaiya 729

Protein Utilization and Reproductive Performance of Rats Fed a Methanol-Based Yeast Single-Cell Protein
M. Ashraf and R.L. Vetter 739

Total Parenteral Nutrition: Improved Formula for Healing Rat Jejunal Anastomoses
R.F. Derr and S. Lindblad 749

Effect of Coprophagy in Rats Upon Bioavailability of Calcium Added to Casein- and Soy Flour-Based Diets
K.E. Weingartner, L. Franzen and J.W. Erdman, Jr. 755

CNS Depressants, Food Restriction and 'Weight Rebound' in the Rat
B. Szepesi, M. Sears and T.H. Lino 763

Effect of Supplemental Methionine on Lupin Diets on Hepatic RNA Polymerases Activity and Protein Efficiency Ratio in Weanling Rats
F. Garrido, E. Yanez and M. Ferretto 771

Book Review: Current Topic in Nutrition and Disease, Vol 2, Chromium in Nutrition and Disease by Günay Saner 783

Books Received 784

NUTRITION REPORTS INTERNATIONAL
Volume 23, Number 5 May 1981

ORIGINAL ARTICLES

Biochemical Assessment of Vitamin B_6 Nutritional Status of Subjects in High and Low Socio-economic Groups
S. Bapurao and P.G. Tulpule 785

On the Chemical Composition of Sow Milk During Polyol Feeding
K.K. Makinen, M. Nasi and T. Alaviuhkola 793

The Effect of Germination and Cooking on the In Vitro Digestibility of Starch in Some Legumes
E. Jyothi and P.R. Reddy 799

Crude Protein and Amino Acid Compositions of Three California Rice Varieties
M.M. Tabekhia, R.B. Toma and B.S. Luh 805

Nutritional Evaluation of Methanol-Based, Yeast Single-Cell Protein in a Multigeneration Rat Study
M. Ashraf, R.L. Vetter, S. Nissen and D.L. Graham 813

Effect of Various Dietary Xenobiotics on Serum Total Cholesterol and High Density Lipoprotein Cholesterol in Rats
N. Kato and A. Yoshida 825

Effect of Dietary Protein Quality on Muscle Polyribosome Profiles of Rats in a Meal-Feeding Condition
H. Yokogoshi, K. Inaba and A. Yoshida 833

Niacin/Pantothenic Acid/Protein Interrelationships Affecting the Nutritive Values of Winter Wheat for Humans
B. Unver, C. Kies and H.M. Fox 841

Effect of Dietary Protein, Sulfur Amino Acids, and Phosphorus on Human Trace Element Metabolism
S.M. Snedeker and J.L. Greger 853

Some Toxic Factors in Winged Bean Seeds. I. Antitrypsin Hemagglutinating and Urease Activities
T.E. Ekpenyong and R.L. Borchers 865

Effect of Black Pepper (Piper Nigrum Linn) and Piperine on Growth, Blood Constituents and Organ Weight in Rats
M.R. Srinivasan and M.N. Satyanarayana 871

Effect of Processing on Some Nutritional Properties of the Protein of Winged Bean
T.E. Ekpenyong and R.L. Borchers 877

Effects of Maternal Cigarette Smoking During Pregnancy on Birthsize, Growth of Infants and Infant Feeding Practices
D.L. Yeung, M.D. Pennell, M. Leung and J. Hall 887

Effects of Low Levels of Iron on Hemoglobin Values of Parasitised School Children
L. Hussein, B. Elnaggar, S. Gaafar and H. Allaam 901

The Growth and Energy Metabolism of Rats Fed Diets Containing Two Levels Autoclaved Poultry Manure
I.C. Obizoba 915

Effects of Medroxyprogesterone Acetate and Restricted Feeding on Tissue Mineral Concentrations in Female Rats
P. Dutta, E.E. Pickett and M.A. Flynn 923

Lipoprotein Modifications with Balanced Semi-Synthetic Diets, in Rabbits
C. Lacombe and M. Nibbelink 931

Acute Effects of Food and Ethanol on Plasma Zinc Concentration
B. Richards, D.M. Flint and M.L. Wahlqvist 939

Study in the Protein Turnover Using Developmental Changes in Muscle
D.O. Nnanyelugo 945

Growth and Liver DNA, RNA, and Protein Contents of Rats Fed Excessive Vitamin B_6
D.C. Fay and J.A. Driskell 963

Influence of Dietary Lecithin on Digestibility of Fats in Poultry Diets
J.D. Summers and S. Leeson 969

Niacin/Protein Interrelationships Influencing the Apparent Protein Nutritive Value of an Extruded Soy Meal Product for Humans
C. Kies and H.M. Fox 975

Correlation Between Viscosity and Plasma Glucose- and Insulin-Flattening Activities of Pectins from Vegetables and Fruits in Rats
K. Ebihara, R. Masuhara, S. Kiriyama and M. Manabe 985

Metabolism of Protein in Ruminant Animals: A Review
A. Bondi 993

NUTRITION REPORTS INTERNATIONAL

Volume 23, Number 6 June 1981

ORIGINAL ARTICLES

A Weaning Food From Locally Grown Grains in Nigeria: Formulation and Organoleptic Evaluation
P.K. Odum, L.A. Adamson, L. Moragne and C.H. Edwards 1005

Metabolism of Adenine Nucleotides, Nucleic Acids and Proteins in the Liver, Brain and Kidney of Undernourished Female Rats
U. Srivastava and C. Omoloko 1021

Metabolism of Adenine Nucleosides and Nucleotides, Nucleic Acids and Proteins in the Thymus and Spleen of Neonatal Progeny of Dietary Restricted Rats
U.S. Srivastava, A.K. Rakshit, M. Seebag, C. Omoloko and M.L. Thakur 1035

Effects of Caramel Diets and Other Dietary Manipulations on Cecal Enlargement, Kidney Pathology and Hematology
M.L. Buttolph, T. Misa and P.M. Newberne 1043

Extraction of the Proteins of Winged Bean Seeds
T.E. Ekpenyong and R.L. Borchers 1055

Increased Requirement of Linoleate in the Presence of Dietary Abundance of Oleate
N.K. Menon, C.S. Subramanian and G.A. Dhopeshwarkar 1063

Blood Cells and Bone in Rats Fed Two Levels of Magnesium and of Protein
M.A. Kenney 1073

A Polyol Mixture in the Diet of Dairy Cows
K.K. Makinen, M. Hamalainen, M. Tuori and E. Poutiainen 1077

Effect of In Vivo Nicotinic Acid Administration on Prostaglandin Synthesis in Pigeon Aorta and Thrombocytes
D. Deitemeyer, R. Yunker and M.T.R. Subbiah 1089

Comparative Study of Fatty Acids from Body and Liver Lipids in Germ Free and Conventional Growing Rats
Y. Demarne and E. Sacquet 1095

Growth of the Yellow Mealworm Fed Graded Doses of Mycotoxins at Three Dietary Protein Levels
G.R.F. Davis and H.B. Schiefer 1105

Effect of Dietary Propionic Acid on Cholesterol Synthesis in Swine
R.J. Boila, M.O. Salomons, L.P. Milligan and F.X. Aherne 1113

Food Way Changes of Iranian Students at an American University
C. Kies and G.T. Mianians 1123

Effect of Gestation Energy Intake and Breed on the 40-Day Swine Fetus
W.G. Pond, R.R. Maurer, J.T. Yen and J.J. Ford 1129

Increase in Protective Activity by Delignification of Cereal Dietary Fibers Against Amaranth Toxicity in Rats
K. Ebihara and S. Kiriyama 1139

Major Determinants of Plasma Glucose-Flattening Activity of a Water-Soluble Dietary Fiber: Effects of Konjac Mannan on Gastric Emptying and Intraluminal Glucose-Diffusion
K. Ebihara, R. Masuhara and S. Kiriyama 1145

Relative Net Protein Ratio Method for Evaluating Protein Quality
G. Sarwar and J.M. McLaughlan 1157

Inactivation Studies on the Trypsin Inhibitor Activity of Green Gram Cultivars
F.G. Haider 1167

AUTHOR INDEX 1173

SUBJECT INDEX 1177

AUTHOR INDEX TO VOLUME 24

A

Achterberg, C.L., 557
Addo, A.A., 769
Adewusi, S.R.A., 459
Afolabi, A.O., 389, 459, 1251
Ajayi, S.S., 707, 717
Akintunde, E.A., 1109
Alam, S.Q., 355
Albanese, A.A., 403
Amiot, J., 513
Amla, I., 471
Anderson, J.W., 1093
Aoyama, Y., 839
Arambel, M.J., 1029, 1271
Arnauld, J., 1153
Arscott, G.H., 1287
Asano, T., 451
Ashida, K., 839
Ashoub, A., 277
Ashraf, M., 211, 229
Asplund, J.M., 95
Aust, R., 957
Aziz, M.T.A., 951

B

Babu, S., 825
Bachevalier, J., 415
Bagheri, S.M., 47
Bai, N.J., 1205
Baldino, A., 1213
Bales, G.L., 229
Bamji, M.S., 345, 649
Bartley, E.E., 1029, 1271
Bassir, O., 105
Bay, I.G., 371
Bechtold, M.M., 741
Beecher, G.R., 919
Beitz, D.C., 1037
Bendel, R., 1133
van den Berg, J.W.O., 145
Bezerra, V.L., 985
Bhalla, V., 1133
Birgul, I., 181
Blackman, J.R., 591
Bois-Joyeux, B., 531
Borgo, L.A., 985
Botez, M.I., 415
Botting, H.G., 267
Braund, D.G., 197
Brisson, G.J., 513
Broderick, G.A., 361
Brooke, J.D., 1279
Brosemer, R.W., 425
Brown, D.E., 785
Browning, D., 629
Buben, M., 943
Budd, J.M., 855

C

Campbell, L.D., 791
Carbonneau, N., 1139
Cardoso, M.B., 237, 249
Carnovale, E., 1297
Carrington, L.E., 1199
Carroll, K.K., 1187
Carroll, L., 403
Chakraborty, J., 963
Chanez, M., 531
Chen, W.J.L., 1093
Cheng, D.C.H., 1187
Christian, L.L., 1037
Christmas, R.B., 831
Chvapil, M., 867, 1043
Clark, D.G., 643
Closa, S.J., 875
Cogan, U., 1001
Conway, L., 615
Corbin, J.E., 785
Craig, R.E.A., 189
Czarnecki, S.K., 465, 1213

D

Damron, B.L., 731
D'Aquino, M., 1297
Deetz, L.E., 543
DeGregorio, R.M., 543

Delhomme, B., 531
Delisle, J., 513
Donoghue, S., 551
Dorea, J.G. 985
Dorsey, J.L., 777
Dreosti, I.E., 643
Driskell, J.A., 811
Duarte, R.M.F., 129

E

Ebihara, K., 481
Edelson, A.H., 403
Edwards, C.H., 1
Eggum, B.O., 791
Eilertsen, E., 371
Einav, P., 1001
Ellwood, K.C., 313, 675
El-Naggar, H.E., 951
El-Raziky, E.S., 951
Ely, D.G., 323
Ette, S.I., 31
Evans, J.L., 575

F

Fahey, G.C., Jr., 785
Fahmy, K.A., 951
Farina, R., 803
Faturoti, E.O., 707, 717
Fau, D., 531
Fears, R., 909
Ferro-Luzzi, A., 153
Fischer, P.W.F., 993
Flick, P.K., 667
Forster, R., 331
Fottler, H.J., 785
Fox, H.M., 581, 659
Foy, W.L., Jr., 575
Friedman, S., 875
Fronk, T.J., 197

G

Gaetani, S., 1297
Galler, J.R., 885
Gamble, M.A., 257
Gardner, L.B., 313
George, T., 1205
Germansky, M., 615
Gifford, J.M., 217
Giovannetti, P.M., 1187
Giral, F., 817
Giroux, A., 993
Glenn, B.P., 323
Glenny, H.P., 909
Gould, M.R., 1093
Goulet, G., 513
Grammer, J., 425
Greger, D., 615
Gruden, N., 943
Gueguen, L., 47
Guennou, L., 1139
Gurusiddaiah, S., 425
Gutenmann, W.H., 197

H

Handke, A., 331
Harbers, L.H., 1029, 1057, 1271
Harms, R.H., 731, 831
Harrill, I., 1133
Hasegawa, T., 451
Hattori, Y., 839
Hayase, K., 1163
Hintz, H., 615
Hood, R.L., 1037
Horio, F., 431
Horner, M.R., 985
Hoseney, R.C., 621, 1017, 1099
Hostmark, A.T., 371
Howe, J.C., 919
Hunter, B., 867, 1043
Huque, T., 171
Hussein, L., 277

I

Ibrahim, A.A., 277
Ifon, E.T., 25

J

Jacobsen, I., 791

Jank, J., 581
Jenkins, M.Y., 499
Johanning, G.L., 1075
Johnson, Z.B., 591
Jones, J.D., 513
Jones, P.J.H., 75
Joyal, C., 415

K

Kadirvel, R., 379
Kalameghan, R., 755
Karube, S., 355
Kato, N., 431
Keith, R.E., 811
Khan, M., 963
Khare, I., 1139
Kies, C., 165, 581, 659
Kincaid, R.L., 629
Kiriyama, S., 481
Kling, L.J., 39
Klopfenstein, C.F., 621, 1017, 1099
Knehans, A.W., 1075
Knoll-Kohler, E., 331
Koo, S.I., 395
Kratzer, F.H., 379
Krishnakanth, T.P., 901
Krishnamurthy, S., 1205
Krishnaswamy, K., 755
Kristensen, E., 371
Kritchevsky, D., 465, 1213
Kruger, E.F., 1123
Kumar, P.S., 1205

L

L'Abbe, M.R., 993
Lachance, P.A., 1153
Laddha, G.S., 747
Lamberts, S.W.J., 145
Latif, K.A., 471
Lee, M., 75
Lee, S.S., 1173
Lei, K.Y., 1179
Leichter, J., 75
Leitzmann, C., 1221
Leung, P.M.B., 257
Libke, K.G., 811
Liener, I.E., 1173
Lin, I.M., 1179
Lindsay, R., 909
Lindvall, R.N., 443
Lisk, D.J., 197
Lorenze, E.J., Jr., 403
Louw, M.E.J., 1123
Lystad, E., 371

M

Maag, U., 415
Mabray, C.J., 591
Madhavapeddi, R., 825, 901
Maduagwu, E.N., 31
Majumdar, A.P.N., 1067
Makhija, S.L., 1139
Martin, R.E., 313
Masushige, S., 451
Maurer, R.R., 443
McKenna, M.C., 699
Mercer, L.P., 57, 217
Michaelia, O.E., IV, 313, 675
Mitchell, G.V., 499
Mitchell, H.L., 799
Mokady, S., 1001
Monagle, J.E., 1133
Mueller, R.E., 95
Muntifering, R.B., 543
Murray, E., 689
Musgrave, K.O., 557
Myoga, K., 291

N

Nadeau, M., 1139
Naidu, N.A., 755
Nakamoto, T., 355
Nera, E.A., 993
Nicoli, J.R., 237, 249
Noel, F.J., 267
Norgan, N.G., 153
Nose, T., 451
Novak, M., 615

O

Obizoba, I.C., 203
O'Dell, B.L., 1075
Odum, P.K., 1
Ohno, T., 291
Ohshima, M., 85, 1233
Ojofeitimi, E.O., 459
Oke, O.L., 389, 459, 1251
Okorie, A.U., 1241
de Oliveira, J.E.D., 129
Olson, O.E., 635
Onwudike, O.C., 1009
Ophaug, R., 689

P

Paci, C., 153
Palmer, I.S., 635
Parrish, D.B., 799
Paul, S.R., 963
Paulsen, G.M., 1057
Peace, R.W., 267
Penz, A.M., Jr., 1087
Peret, J., 531
Pierson-Goeger, M., 1287
du Plessis, J.P., 1123
Pond, W.G., 443
Pothoven, M.A., 1037
Prema, K., 649, 825, 893
Propert, K.J., 885
Pugh, J.L., 785

R

Rabinowitch, H.D., 551
Radcliffe, J.D., 699
Radhaiah, G., 345
Radhakrishnan, V., 747
Raiten, D.J., 1057
Rakshit, A.K., 1139
Ramalakshmi, B.A., 825, 893
Ramlet, J.S., 217
Ramsey, B.E., 591
Rao, P.B.R., 471, 901
Read, M.H., 1133
Reddy, P.R., 1221
van Rensburg, S.J., 1123
Rio, M.E., 803, 875
Roberts, D.C.K., 1187
Roeder, R.A., 361
Rogel, A.M., 847
Rogers, Q.R., 257

S

Samyukta, S., 825
Sanahuja, J.C., 67, 803
Saner, G., 181
Sarma, K.V.R., 345
Sarwar, G., 267
Savoie, L., 513
Schutz, H.G., 1133
Sell, J.L., 211, 229
Shanmugasundaram, E.R.B., 747
Shanmugasundaram, K.R., 747
Shariff, G., 1087
Sheehan, E.T., 1133
Shoji, H., 355
Short, J.R., 591
Siewicki, T.C., 121
Singer, L., 689
Singh, K, 901
Sklan, D., 551
Slobodianik, N.H., 803, 825
Smith, I.F., 603
Smith, J.T., 777
Soares, J.H., Jr., 39
Sotelo, A., 817
Spadoni, M.A., 1297
Spydevold, O.S., 371
Srebnik, H.H., 855
Srinivas, L., 901
Srivastava, U., 1139
Standal, B.R., 1133
Stanton, P., 395
Stapleton, P., 189, 931
Story, J.A., 465, 1213
Sullivan, A.C., 305
Suzuki, K., 451
Suzuki, T., 451
Swart, G.R., 145
Sydlowski, J.S., 121

T

Takeda, H., 481
Tamai, M., 1233
Tappel, A.L., 741
Tasaki, I., 85, 135
Taylor, M.J., 931
Tepper, S.A., 465
Tewe, O.O., 707, 717, 1263
Tharwat, S., 951
Thompson, L.U., 957
Thornbuby, M., 557
Topping, D.L., 643
Tredger, J.A., 909
Triscari, J., 305
Tsujita, J., 481

U

Ueda, H., 85, 135, 1233
Umoh, I.B., 31, 105, 389
Umunna, N.N., 973

V

Van Reen, R., 295
Vannucchi, H., 129
Varriano-Marston, E., 621, 1017, 1099
de la Vega, A., 817
Vijayalakshmi, A., 1221
Vohra, P., 847, 1087

W

Waldroup, P.W., 591
Ward, L.C., 1199
Wein, E.H., 403
Wiemer, K., 165, 659
Wilson, J.H.P., 145
Wohlt, J.E., 575
Wolfe, B.M., 1187

Y

Yabuta, S., 135
Yen, J.T., 443
Yokota, H., 85, 135
Yoshida, A., 431, 839, 1163
Yuksel, T., 181

Z

Zaretsky, J., 1153
Zaza, G., 1297

SUBJECT INDEX TO VOLUME 24

A

Adenine, nucleotides, 531
Adipose tissue, 839, 1037
Adolescents,
  nutrition, 659
  snacking patterns, 557
African giant rat, 707, 717
Age, indexed by teeth, 963
Albumin, 803
Alfalfa meal, 799
Alkaline phosphatase, 1067
Amaranth, toxicity, 481
Amaranthus, 389
Amino acid(s), (see also specific amino acid)
  availability, 791
  balance, 379
  composition, 1153
  concentration, 323, 1233
  deficiency, 85
  excess, 135, 355
  levels, in brain, 425
  limiting, 1221
  nutritional evaluation, 817
  patterns, 217
  supplementation, 189, 267, 1287
Anemia, human 825
Anthropometric
  indices, lactating women, 893
  status, boys, 345
Antioxidants, 591, 1205
Arsenic, dietary, 121
Ascorbic acid, 1099
  content, 769
  supplementation to diet, 1017
  toxicity, 291
  urinary, 431
Atrophy, jejunal, 415
Avitaminosis A, 471

B

Bean,
  diet, 129
  faba, 1297
  Phaseolus vulgaris, 1087
  velvet, 817
Behavior, motor, 331
Bile acids excretion, 1001
Bioavailability, iron, 25
Biological evaluation, 249
  _____ value, 791
Bipiperidyl mustard treatment, 31
Blood, cord, 181
Body composition, rats, 885
Bone, 615
  loss, 403
Brain, weights, 217
Bran, 581
  oat, 1093
Brewers dried grain, 1009
Broilers, 229, 591
  performance, 731

C

Cacodylic acid, 121
Cadmium, 431
Calcium,
  metabolism, 615, 919
  supplementation, 403
Cancer, esophageal, 1123
Carbohydrates,
  comples, 847
  diet, in man, 1279
  dietary, 675
  metabolism, 305
Carcinoma, Walker 256, 699
Carnitine, levels in rat tissue, 931
Cellulose, 395
Celosia, 389
Cereals, 25
Cerium, 1029
Chemical score, 817
Chicks,
  growing, 211
  weight gain, 31
Chicken, digestion of peptides, 867
Cholesterol,

dietary, 1075
exogenous, 675
infant, 181
level in guinea pigs, 1017
liver, 465, 1213
metabolism, 1001
plasma, 431
serum, 395, 465, 1075
tissue levels, 189
Chromatography, liquid, high performance, 451
Clinical status, boys, 345
Clinoptilolite, 443
Coconut oil, 371
Cola, 615
Colostrum, human, 985
Copper,
deficiency, 1179
metabolism, in adults, 203
Corchorus, 389
Coumestrol, 629
Creatinine, urinary excretion, 277
Cyanide, 635
3',5'-cyclic adenosine monophosphate, 689
Cytochrome P-450 levels, 777

D

Diet,
balanced, utilization, 1221
cholesterol lowering, 621
effect in schistosomiasis, 951
maternal, 295
Nigerian peasant, 105
protein-free, 855
regional, Brazil, 129
Dietary,
assesment, adolescents, 557
choice, 257
cholesterol, 465
fat, 699
fiber, 395, 481, 1075, 1213
intake, lactating women, 893
protein, 1163
_____, intake in children, 875
Digestibility, 717, 747
fish, seasonal variation, 1251
Digestion,
in steers, 1057
lignin, 543
Disease, urinary stone, 295
Disaccharidases, 1067
Dog, 785
Dose response, 465
Drug, metabolism, 755
Dysprosium oxide, 1271

E

Egg, production in quail, 1287
Elfazepam, 785
Energy,
effect of prior protein ingestion, 257
metabolizable, 791
utilization, 85, 717, 777
value, university meals, 1139
Enzyme, 1067
(see also specific enzyme)
drug metabolizing, 431
Epilepsy, 415
Erythrocyte, 901, 1205, 1297
Esophageal cancer, 1123
Estrogen, replacement therapy in women, 403
Ethionine, ingestion, 531
Excretion, radioactive metabolite, 171
Exercise, effect on blood glucose, 279

F

Faba bean, utilization, 1297
Fat,
dietary, 699
mango kernal, 747
Fatty acid, 667
essential, 699
polyunsaturated, 39
synthesis, in pigs, 1037
_____ liver, 267
Feeds,
fibrous, 1029
intake, hens, 831
Fescue, 323
Fetal alcohol syndrome, rats, 75
Fiber, 165, 203, 659

analysis, 575
dietary, 395, 481, 1213
level, 707, 717
Fish,
arsenic, 121
chemical composition, 1251
Fly ash, coal in diet, 197
Folate deficiency, 415
Food,
components, 1109
consumption, adolescents, 557
distribution, in households, 153
fiber, 575
restriction, effect carnitane levels, 931
Forced-feeding, chicks, 85, 135
Fructose, 839
Fungus, protein, 237, 249

G

β-Globulin, 803
Glossitis, 649
Glucose, 839
blood, effect of exercise in men, 1279
effect of heating, 379
Glutamine, 425
Glutathione peroxidase, 551, 635
Gluten, wheat, 1001
Goats, 1263
Gonadotropin, 629
Grain,
brewers dried, 1009
diets, 1099
nutritive value, 389
Growth,
African giant rat, 707
chick, 379
fetal rats, 75
____ and maternal rats, 57
mice, 1199
Nigerian grains, rats, 1
rat progeny, 855
rate in guinea pigs, 1017, 1099
students, 277
_____ and development, rat, 355
Guinea pig, 291, 621, 811, 1075, 1099
Gum, oat, 1093

H

Health, in children, 963
Hemaglobin, 825
Hemolysis, 1205, 1297
Hens, 1009
laying, 831
Hormone, status, Nigerian children, 603
Hydrolysis, pepsin and trypsin, 513
Hydroxyproline, urinary excretion, 277
Hypercholesterolemia, 1179
in men, 1187
Hypertension, spontaneous, 313
Hypertriglyceridemia, in males, 909
Hypovitaminosis A, 901

I

India, women, nutrtional status, 649
Infants, 1
Infusion, 95
Iron,
metabolism, 943
supplementation, 25
utilization, 165, 659
Ischaemia, 531

J

Jejunal atrophy, 415

K

Kidney, morphology, 811

L

Lactation, women, 825, 893
Lambs, 543
Lead, 165
Leaf, protein concentration, 1233
Legume, 267
Leucine, excess, 135
Leucocyte, 471

Lignin, digestion, 543
Linoleic acid, diets, 39
Lipids, 957
  blood, 675
  determination, human milk, 985
  metabolism, 305, 1093
  peroxidation, 741, 1205
Lipogenesis, 313, 1037
Lipoprotein, 371
  concentration, infant, 181
  high density, 1179, 1187
  lipase activity, 839
  serum, 395
Liver, 667
  lipid levels, 1093
Lysine,
  content, 389
  deficiency, 931
  supplementation, 379
  excess, 135

M

Magnesium, deficiency, 993
Malnutrition, rats, 855
Manganese, metabolism, 943
Mango kernal fat, 747
Marker, inert, 1029, 1271
Mathematical model, 57
Membrane, permeability, 901
Mercury, toxicity, 39
Methionine,
  content, 389
  excess, 135, 355
  deficiency, 85
  supplementation, 189, 267, 817 1287
Methylbenzlnitrosamine, 1123
Milk, 451
  human, 985
  iron-fortified, 943
Mineral, (see also specific mineral)
  composition, 105
  metabolism, 203
  utilization, 47
Monensin, 731
Mucopolysaccharides, 471
Muscle,
  composition, 1153
  protein synthesis and catabolism, 361
Mustard, bipiperidyl, treatment, 31

N

Nephrocalcinosis, 993
Newborn, rat, effect of methionine, 355
New Guinea, food intake, 153
Nicotine, 643
Nitrogen,
  balance, 129, 1221
  _____, human, 145
  retention, 1
  utilization, 85
Nuclear brain RNA synthesis, 331
Nucleotides, adenine, 531
Nutrient,
  content university meals, 1139
  requirement, hens, 831
  uptake, 75
  utilization, dog, 785
Nutritional,
  improvement, 1087
  status, lactating women, 893
Nutritive value,
  seasonal variation in fish, 1251
  soy products, 67

O

Oat, bran and gum, 1093
Obesity,
  human, 145
  chicks, 31
  mice, 777
  rats, 305
Oil,
  edible, 747
  frying, 957
Oxythiamine, 425
Ovine, 323

P

Pancreas, 1173
Patterns, snacking, 557
Pectin, 1093

Pentane, respiratory, 741
Pepsin, 513
Peptides, 1043, 1173
  and nutritional value, 867
Phaseolus vulgaris, 1087
Phenylalanine, excess, 135
Phenytoin, 415
Phosphorus,
  availability, 211
  metabolism, 919
Physical fitness, 909
Phytate, 203
Phytosterols, 1075
Pigs, 1037, 1233
  preweaning, 443
Polioencephalomalacia, 95
Polychlorinated biphenyl, 431
Polyunsaturated fat, 667
Potassium, depletion, 1153
Potatoes, fried, 957
Pregnancy, rats, 855
Protein,
  absorption, 513
  content, university meals, 1139
  deficiency in rats, 885
  depletion, 1163
  dietary, 189, 217, 919
  _____, choice, 257
  _____, intake in children, 875
  _____, quality, 803
  _____, source, 1187
  digestibility, 481
  heat, effect on, 379
  intake, New Guinea, 153
  leaf, concentrate, 1233
  legume, 267
  level, in quail, 1287
  malnutrition, 331
  milk, human, determination, 985
  molecular weight and growth, 1043
  muscle, catabolism, 145
  nutritive value, animal, 459
  nutritional quality, 499
  plasma, 803
  quality, 189, 361, 389
  serum, 875, 951
  _____, concentration, 57
  single cell production, 237, 249
  source, 229
  synthesis, 867, 1043, 1199, 1241
  status, 581
  supplement, 499
  _____, in students, 277
  turnover, 1163
Protein-calorie malnutrition, 755
Protein-free diet, 855
Protein efficiency ration, 459, 499, 707, 817, 1251
Protein energy malnutrition, 603
Pulses, 25
Pyridoxine, deficiency, 649

Q

Quail, Japanese, 39, 1287

R

Rapeseed, 791
Rare earth salts, 1029
Reproduction, mice, 629
Retinol, 171
  deficiency, 901
Retinyl palmitate, 1205
Riboflavin, deficiency, 649, 1297
Rice,
  bran, 581
  diet, 129
RNA, initiation sites, 331
Roughage, utilization, 543
Rumen, 1057
  ammonia, , 1241, 1263

S

Sarotherodongalilaeus, 1109
Schistosomiasis, 951
Seasonal variation,
  nutritive value of fish, 1251
  stomach content of fish, 1109
Selenium, 39, 635
  status, 197
Serum protein, 825, 951
Sheep, 973, 1241, 1263
Silica, 1057

Snail, 459
Sodium, dietary, 731
Sorghum, 621
Soup, soy based, 67
Soybean, 1173
  isolate, 1187
  soup formulation, 67
Steers, 197, 1057
Stock fish, 459
Sucrose, 675, 909
Sugars, simple, 313, 847
Sulphur,
  dietary, 1261
  elemental, supplementation, 323
Sunflower oil, 371
Superoxide dismutase, 551

T

Teeth, in children, 963
Tetrahymena pyriformis, 1043
Thermogenesis, 643
Thiamine, 415, 425
  deficiency, 95
Thiocyanate, 1263
Tocopherol,
  alpha, 39
  deficiency, 1297
Toxicity,
  amaranth, 481
  ascorbic acid, 291
  mercury, 39
  vitamin, 1133
Trenbolone acetate, 1199
Tribolium larvae, 847, 1087
Triiodothyronine, 145
Trypsin, 513, 817
  inhibitor, 799, 1173
Tryptophan, dietary, 1067

U

Urea, 973, 1263
Urea nitrogen/creatinine index, 875
Urolithiasis, 295

V

Vasopressin, 305
Vegetable, dehydration, 769
Vicine, 1297
Vinasse, 237
Vitamin(s), (see also specific vitamin)
  A, 551
    status, 171, 1123
  B,
    complex supplementation, 345
    6, deficiency, 649, 1297
  C, 291, 769, 1099
    dosing, 811
    supplementation, 1017
  D_3-sulfate, 451
  E, 39, 551, 741
  supplementation, 1133
  toxicity, 1133

W

Weaning, food, 1
Weight,
  gain, in pigs, 443
  _____ rats, 885
  loss, human, 145
Wheat,
  bran, 47, 581
  flour, 817
  gluten, 1001
Women, postmenopausal, 403

X

Xenobiotics, 755

Y

Yeast, single-cell protein, 211, 229

Z

Zeolite, 443
Zinc,
  deficiency, 643, 689
  metabolism in adults, 203
  repletion, 689

Vol. 24 1981
July - December
ISSN 0029-6635

NUTRITION REPORTS INTERNATIONAL

ANTHONY A. ALBANESE, Ph.D,
Editor-in-Chief

Publisher: GERON-X, INC., LOS ALTOS, CALIF.

NUTRITION REPORTS INTERNATIONAL
Anthony A. Albanese, Ph.D., Editor-in-Chief
Dorothy N. Zavattaro, Managing Editor
Nutrition & Metabolic Research Division
Burke Rehabilitation Center
White Plains, New York 10605

BOARD OF ASSOCIATE EDITORS

Dr. Kiyoshi Ashida, Professor
Nutritional Biochemistry
Nagoya University
Laboratory Food & Nutrition
Nagoya, JAPAN

Prof. A. A. Bondi
Faculty of Agriculture
The Hebrew University of Jerusalem
P.O. Box 12, Rehovot, ISRAEL

Dr. Harold H. Draper
Department of Nutrition
College of Biological Sciences
University of Guelph
Guelph, Ontario, Canada N1G 2W1

Hans Fisher, Ph.D., Professor
Chairman, Department of Nutrition
Rutgers The State University
New Brunswick, New Jersey 08903

Nestor W. Flodin, Ph.D.
Department of Biochemistry
University of South Alabama
College of Medicine
Mobile, Alabama 36688

R. M. Forbes, Ph.D., Professor
Department of Animal Science
College of Agriculture
University of Illinois
Urbana, Illinois 61801

Dr. Sven Froberg
Ersta Sjukhus
Fjallgatan 44-50
S-166 35, Stockholm, SWEDEN

Dr. Osman M. Galal
Nutrition Department
National Research Center
el-Tahrir Str., Dokki
Cairo, EGYPT

Robert S. Goodhart, M.D., Exec. Sec.
Committee of Medical Education
The New York Academy of Medicine
New York, New York 10029

Dr. Robert H. Harms
Department of Poultry Science
University of Florida, IFAS
Archer Road
Gainesville, Florida 32611

Dr. Ervin J. Hawrylewicz
Director of Research
Mercy Hospital and Medical Center
Stevenson Expressway at King Drive
Chicago, Illinois 60616

MUDr. Stanislav Hejda CSc
Institute of Hygiene and
Epidemology
Research Center of Food and Nutrition
Srobarova 48, Prague 10
CZECHOSLOVAKIA

Basil S. Hetzel, MD, FRCP, FRACP
Chief, Division of Human Nutrition
Commonwealth Scientific and Industrial
Research Organization
Kintore Avenue
Adelaide, SA 5000, AUSTRALIA

Andie M. Hueh, Sc.D.
Department of Nutrition and
Food Science
College of Nutrition, Textiles and
Human Development
Texas Woman's University
Denton, Texas 76204

Dr. Werner G. Jaffe
Instituto National de Nutricion
Apartado 2049
Caracas, VENEZUELA

G. Richard Jansen, Ph.D.
Department of Food Science
and Nutrition
Colorado State University
Fort Collins, Colorado 80523

Dr. Shuhachi Kiriyama
Department of Agricultural Chemistry
Faculty of Agriculture, Ehime University
Tarumi 3-5-7, Matsuyama, JAPAN

David Kritchevsky, Ph.D.
Member, The Wistar Institute
36th Street at Spruce
Philadelphia, Pennsylvania 19104

MUDr. Eduard Kuhn, Dr. Sc.
Institute of Human Nutrition
Budejovicka 800
Prague 4, CZECHOSLOVAKIA

Dr. Paul A. Lachance
Cook College
Department of Food Science
Rutgers University
New Brunswick, New Jersey 08903

Prof. Dr. Claus Leitzmann
Institut fur Ernahrungswissenschaft
Justus-Liebig-Universitat
Wilhelmstrasse 20
D-6300 Giessen, GERMANY

Dr. Ian Macdonald
Department of Physiology
Guy's Hospital Medical School
London, S.E.1, ENGLAND

Dr. Endre Morava
Institute of Nutrition
Budapest, Gyali ut 3/a
HUNGARY 1097

Dr. Paul M. Newberne
Department of Nutrition and Food
Science
Massachusetts Institute of Technology
Cambridge, Massachusetts 01239

Board of Associate Editors (continued)

Louis A. Orto, M.S.
Director, Clinical Laboratory
Duke Rehabilitation Center
White Plains, New York 10605

Dr. Raymond Reiser
Dept. of Biochemistry and Biophysics
Texas A & M University
College Station, Texas 77843

Dr. A. Rerat
Institute National de la Recherche Agronomique
Laboratoire de Physiologie de la Nutrition
78350 Jouy-en-Josas, FRANCE

Dr. Juan C. Sanahuja, Director
Department of Nutrition and Food Science
University of Buenos Aires
Junin 956, Buenos Aires 1113,
ARGENTINA

Dr. Harold H. Sandstead
Director, USDA, SEA
Human Nutrition Research Center
P.O. Box 7166, University Station
Grand Forks, North Dakota 58202

Dr. Gunay Saner
Department of Pediatrics
Faculty of Medicine
University of Istanbul
Capa, Instanbul, TURKEY

B.G. Shah, Ph.D.
Nutrition Research Division
F.B. Research Centre
Health Protection Branch
Tunney's Pasture
Ottawa, Ontario, Canada K1A 0L2

Dr. John Edgar Smith
Department of Nutrition
Henderson Human Development Building
Pennsylvania State University
University Park, Pennsylvania 16802

Prof. M. Antonietta Spadoni
Istintuo Nazionale della Nutrizione
Via G.M. Lancisi, 27-29
Roma, ITALY

Herbert Sprince, Ph.D.
Chief, Research Biochemistry
Veterans Administration Hospital
Coatesville, Pennsylvania 19320

Dr. M. Swaminathan
Department of Plastic and Reconstructive Surgery
C.M.C. Hospital
Vellore 4, Tamil Nadu, INDIA

Dr. David A. Vaughan
8533 Pineway Drive
Laurel, Maryland 20810

Roger J. Williams, Ph.D.
Department of Chemistry
The University of Texas at Austin
Austin, Texas 78712

Dr. Salvador Zubiran, Director
Instituto Nacional de la Nutricion
Mexico, D.F., MEXICO

GUIDE FOR AUTHORS

NRI invites concise reports of original research in the area of clinical and experimental nutrition. The purpose of NRI is to provide a medium for the rapid communication of advances and newer knowledge of nutrition, nutritional biochemistry and food science. Publication of original reports on all aspects of nutrition, within 90 days of manuscript receipt is anticipated. Authors will be advised of disposition of the manuscript within 30 days of its receipt. Manuscripts should be sent to: –

Anthony A. Albanese, Ph.D.
Editor-in-Chief
Nutrition Reports International
The Burke Rehabilitation Center
White Plains, New York 10605

Authors outside the United States should address manuscripts to a corresponding editor in their own country. Authors in countries not represented by a corresponding editor should send their manuscripts directly to the Editor-in-Chief.

Guide for Authors and Typing Form are available upon request from the Editors.

©1981, Geron-X, Inc.

NUTRITION REPORTS INTERNATIONAL is published monthly by Geron-X, Inc.,
Box 1108, Los Altos, California 94022, USA
(415) 493-0671

Two volumes per year
Personal subscription $ 70 per year
Institutional subscription $110 per year
Add $10 for surface postage outside USA
Add $24 for airmail USA. Add $40 for airmail outside USA
Individual issues $ 10 each

Second-class postage paid at Los Altos, Calif. and at additional mailing office.

IN THIS VOLUME REPORTS PUBLISHED FROM:

ARGENTINA
AUSTRALIA
BANGLADESH
BRAZIL
CANADA
DENMARK
EGYPT
ENGLAND
FRANCE
GERMANY
HOLLAND
INDIA
ISRAEL
ITALY
JAPAN
MEXICO
NIGERIA
NORWAY
SOUTH AFRICA
TURKEY
UNITED STATES
YUGOSLAVIA

NUTRITION REPORTS INTERNATIONAL
Volume 24, Number 1 July, 1981

ORIGINAL ARTICLES

A Weaning Food From Locally Grown Grains in Nigeria: Growth and Nitrogen Retention in Rats
P.K. Odum and C.H. Edwards 1

Bioavailability to Rats of the Iron Contents in Selected Cereals and Pulses
E.T. Ifon 25

Effect of Bipiperidyl Mustard (BPM) Treatment on the Food Consumption and Weight Gain Pattern of Chicks
I.B. Umoh, S.I. Ette and E.N. Maduagwu 31

The Effect of Vitamin E and Dietary Linoleic Acid on Mercury Toxicity
L.J. Kling and J.H. Soares, Jr., ... 39

Influence of Wheat Bran Diets Containing Unequal Amounts of Calcium, Magnesium, Phosphorus and Zinc Upon the Absorption of these Minerals in Rats
S.M. Bagheri and L. Gueguen 47

A Quantitative Study of Maternal and Fetal Growth in Rats by the Four Parameter Model for Physiological Responses
L.P. Mercer 57

The Nutritive Value of Soy Based Dry-Mix Soups Formulated with Different Soy Products
M.D. del Rio, M. Minetti, P.R. de Ferrer, M.E. Valencia, M.E. Sambucetti and J.C. Sanahuja 67

Uptake of Zinc, Folate and Analogs of Glucose and Amino Acid by the Rat Fetus Exposed to Alcohol In Utero
P.J.H. Jones, J. Leichter and M. Lee 75

A Comparative Study of Dietary Methionine Deficiency and Excess in Chicks
H. Ueda, H. Yokota, M. Ohshima and I. Tasaki 85

Evidence in the Ovine that Polioencephalomalacia Is Not a Result of an Uncomplicated Thiamin Deficiency
R.E. Mueller and J.M. Asplund 95

Nutrient Changes in Some Nigerian Peasant Foods During Cooking. IV. Mineral Element Composition
I.B. Umoh and O. Bassir 105

Excretion of Arsenic by Rats Fed Witch Flounder or Cacodylic Acid
T.C. Siewicki and J.S. Sydlowski 121

Nutritive Value of a Rice and Beans Based Diet for Agricultural Migrant Workers in Southern Brazil
H. Vannucchi, R.M.F. Duarte and J.E. D. de Oliveira 129

Involvement of Feed Intake and Feed Utilization in the Growth Retardation of Chicks Given the Excessive Amounts of Leucine, Lysine, Phenylalanine or Methionine
H. Ueda, S. Yabuta, H. Yokota and I. Tasaki 135

The Effect of Triiodothyronine on Weight Loss, Nitrogen Balance and Muscle Protein Catabolism in Obese Patients on a Very Low Calorie Diet
J.H.P. Wilson, G.R. Swart, J.W.O. van den Berg and S.W.J. Lamberts 145

An Evaluation of the Distribution of Protein and Energy Intakes in Some New Guinean Households
A. Ferro-Luzzi, N.G. Norgan and C. Paci 153

Lead and Fiber Interactions Involving Iron Utilization in Weanling Mice
K. Wiemer and C. Kies 165

Excretion of Radioactive Metabolites of Retinol as an Index of Vitamin A Status in Rats
T. Huque 171

The Relationship Between Total Cholesterol and Lipoprotein Concentrations in Cord Blood
G. Saner, T. Yuksel and I. Birgul 181

Erratum 187

NUTRITION REPORTS INTERNATIONAL

Volume 24, Number 2 August 1981

ORIGINAL ARTICLES

Effect of Dietary Protein and Methionine on Tissue Cholesterol Levels in the Rat
R.E.A. Craig and P. Stapleton 189

Selenium Status and Performance of Finishing Steers Fed a Diet Containing Soft Coal Fly Ash
T.J. Fronk, D.G. Braund, W.H. Gutenmann and D.J. Lisk 197

Zinc and Copper Metabolism of Human Adults Fed Combinations of Corn, Wheat, Beans, Rice, and Milk Containing Various Levels of Phytate
I.C. Obizoba 203

Availability of Phosphorus From Yeast Single-Cell Protein for Growing Chicks
M. Ashraf and J.L. Sell 211

Prediction of Relative Brain Weights and Brain Free Amino Acid Patterns in Rats as a Function of Dietary Protein
J.M. Gifford, J.S. Ramlet and L.P. Mercer 217

Yeast Single-Cell Protein as a Substitute for Soybean Meal in Broiler Diets
J.L. Sell, M. Ashraf and G.L. Bales 229

Single Cell Protein from the Thermotolerant Fungus Phanerochaete Chrysosporium Grown in Vinasse. I. Production and Composition
M.B. Cardoso and J.R. Nicoli 237

Single Cell Protein from the Thermotolerant Fungus Phanerochaete Chrysosporium Grown in Vinasse. II. Nutritive Value
M.B. Cardoso and J.R. Nicoli 249

Effect of Prior Protein Ingestions on Dietary Choice of Protein and Energy in the Rats
P.M.B. Leung, M.A. Gamble and Q.R. Rogers 257

Effect of Methionine Supplemented Legume Protein Products on Liver Fat in Rats
G. Sarwar, H.G. Botting, R.W. Peace and F.J. Noel 267

Metabolic Evaluation of Protein Supplements in Students 6-13 Years of Age. I. Growth Patterns and Urinary Creatinine and Total Hydroxyproline Excretions
A.A. Ibrahim, A. Ashoub and L. Hussein 277

The Possible Toxicity of Vitamin C in the Guinea Pigs
T. Ohno and K. Myoga 291

Effect of Maternal Diet on Urinary Stone Disease in Rat Pups
R.Van Reen 295

Comparative Effects of Vasopressin on Lipid and Carbohydrate Metabolism in Lean and Obese Zucker Rats
J. Triscari and A.C. Sullivan 305

Effect of Simple and Complex Carbohydrate on Lipogenic Parameters of Spontaneously Hypertensive Rats
O.E. Michaelis, IV, R.E. Martin, L.B. Gardner and K.C. Ellwood 313

Effect of Tall Fescue Supplementation with Sulfur, Nitrate and Starch on Abomasal and Plasma Amino Acids in the Ovine
B.P. Glenn and D.G. Ely 323

Influence of Life-Long Protein Malnutrition on Motor Behaviour and Nuclear Brain RNA Synthesis in Adult Male Rats
E. Knoll-Kohler, R. Forster and A. Handks 331

Impact of Long Term Low Dose B-Complex Vitamin Supplements on Clinical and Anthropometric Status of Rural School Boys
K.V.R. Sarma, G. Radhaiah and M.S. Bamji 345

Effects of Excess Methionine on the Growth and Development of Newborn Rats
T. Nakamoto, S.Q. Alam, S. Karube and H. Shoji 355

Effect of Dietary Protein Quality on Fractional Rates of Muscle Protein Synthesis and Catabolism in the Rat
R.A. Roeder and G.A. Broderick 361

Sunflower Oil feeding Increases HDL_2/HDL_3 Ratio in Rats
A.T. Hostmark, O.S. Spydevold, E. Eilertsen, E. Lystad, E. Kristensen and I.G. Bay 371

Effect of Heating Casein and Glucose on the Growth and Development of Chicks
R. Kadirvel and F.H. Kratzer 379

Preliminary Studies on the Nutritive Value of Some Cereal-Like Grains
A.O. Afolabi, O.L. Oke and I.B. Umoh 389

Effects of Cellulose, Pectin and Guar Gum on the Distribution of Serum Cholesterol Among Lipoprotein Fractions
S.I. Koo and P. Stanton 395

Effects of Calcium Supplements and Estrogen Replacement Therapy on Bone Loss of Postmenopausal Women
A.A. Albanese, E.J. Lorenze, Jr., A.H. Edelson, E.H. Wein and L. Carroll 403

NUTRITION REPORTS INTERNATIONAL

Volume 24, Number 3 September 1981

ORIGINAL ARTICLES

Low Blood Thiamine Levels in Phenytoin-Treated Epileptics. A Preliminary Comparative Study 415
M.I. Botez, C. Joyal, U. Maag and J. Bachevalier . . . . . .

The Effect of Oxythiamine, A Thiamine Antagonist, On Glutamine Levels in Murine Brain Regions
R.W. Brosemer, J. Grammer and S. Gurusiddaiah 425

Interaction of PCB and Cadmium for Drug-Metabolizing Enzyme, Plasma Cholesterol and Urinary Ascorbic Acid in Rats
F. Horio, N. Kato and A. Yoshida 431

Effect of Pig Breed Group and of Soil or Clinoptilolite (A Zeolite) in the Pen Environment on Preweaning Weight Gain and Survival
W.G. Pond, J.T. Yen, R.N. Lindvall and R.R. Maurer 443

Determination of Vitamin D_3-Sulfate in Milk by High Performance Liquid Chromatography
T. Asano, T. Hasegawa, K. Suzuki, S. Masushige, T. Nose and T. Suzuki 451

Nutritive Value of Some Popular Animal Proteins in Nigeria
S.R.A. Adewusi, O.A. Afolabi, E.O. Ojofeitimi and O.L. Oke 459

Dose Response to Dietary Cholesterol in the Rat
J.A. Story, S.K. Czarnecki, S.A. Tepper and D. Kritchevsky 465

Studies on Leucocyte Arylsulphatases and Mucupolysaccharides in Relation to Vitamin A Nutrition
K.A. Latif, I. Amla and P.B.R. Rao 471

Decreased Protein Utilization in Amaranth Toxicity and Its Amelioration by the Concurrent Feeding of Dietary Fiber in Rats
H. Takeda, J. Tsujita, K. Ebihara and S. Kiriyama 481

Biological and Biochemical Evaluation of Commercial Powdered Protein Products
M.Y. Jenkins and G.V. Mitchell 499

Nitrogenous Products Released by In Vitro Enzymatic Hydrolysis of Food Proteins
J. Amiot, G.J. Brisson, J. Delisle, G. Goulet, L. Savoie and J.D. Jones 513

Phosphate, Pyrophosphate and Adenine Nucleotides Equilibrium in Rat Liver After Ethionine Ingestion, and During Ischaemia
D. Fau, M. Chanez, B. Bois-Joyeux, B. Delhomme and J. Peret 531

Ruminal and Postruminal Lignin Digestion in Lambs
R.B. Muntifering, R.M. DeGregorio and L.E. Deetz 543

Superoxide Dismutase: Effect of Vitamins A and E
D. Sklan, H.D. Rabinowitch and S. Donoghue 551

Strategies for Measuring Adolescent Snacking Patterns
K.O. Musgrave, C.L. Achterberg and M. Thornbury 557

Detergent Fiber Analyses on Thirty Foodstuffs Ingested by Man
W.L. Foy, Jr., J.L. Evans and J.E. Wohlt 575

Protein Nutritional Status of Human Subjects Fed Wheat and Rice Bran Supplemented Diets
J. Jank, C. Kies and H.M. Fox 581

A Comparison of the Effectiveness of Different Antioxidants in Broiler Diets
P.W. Waldroup, C.J. Mabray, J.R. Blackman, J.R. Short, B.E. Ramsey and Z.B. Johnson 591

Rehabilitation of Protein-Energy Metabolism and Hormonal Status in Nigerian Children
I.F. Smith 603

Calcium Metabolism in Rats Given Cola
L. Conway, M. Germansky, D. Greger, M. Novak and H. Hintz 615

Cholesterol-Lowering Effect of Sorghum Diet in Guinea Pigs
C.F. Klopfenstein, E. Varriano-Marston and R.C. Hoseney 621

The Fecundity of Mice Fed the Phytoestrogen, Coumestrol
R.L. Kincaid and D. Browning 629

NUTRITION REPORTS INTERNATIONAL

Volume 24, Number 4 October 1981

ORIGINAL ARTICLES

Effect of Cyanide on Selenium Status in Rats Fed Low Selenium Diets
I.S. Palmer and O.E. Olson 635

Impaired Thermoregulation in Cold-Exposed Zinc-Deficient Rats: Effect of Nicotine
D.L. Topping, D.G. Clark and I.E. Dreosti 643

Enzymatic Riboflavin and Pyridoxine Deficiencies in Young Indian Women Suffering From Different Grades of Glossitis
M.S. Bamji and K. Prema 649

Fiber Effects on Iron Utilization by Human Adolescents
K. Wiemer, C. Kies and H.M. Fox 659

Rapid Changes in Rat Liver Fatty Acid Composition During Fat-Free and Polyunsaturated Fat Feeding
P.K. Flick 667

Effects of Feeding Dietary Carbohydrates and Cholesterol on Blood Lipid, Insulin, Glucose and Liver Enzymes of Wistar Rats
K.C. Ellwood and O.E. Michaelis, IV 675

Effects of Zinc Deficiency and Zinc Repletion on 3', 5'-Cyclic Adenosine Monophosphate Levels in the Rat
E. Murray, L. Singer and R. Ophaug 691

The Effect of Essential Fatty Acid Deficiency on the Growth and Composition of the Walker 256 Carcinosarcoma
M.C. McKenna and J.D. Radcliffe 699

Performance of the African Giant Rat (Cricetomys gambianus Waterhouse) on Varying Dietary Crude Fibre Levels
E.O. Faturoti, O.O. Tewe and S.S. Ajayi 707

Nutrient Digestibility and Utilization by the African Giant Rat (Cricetomys gambianus Waterhouse) on Varying Dietary Crude Fibre Levels
E.O. Faturoti, O.O. Tewe and S.S. Ajayi 717

Broiler Performance as Affected by Sodium Source, Level and Monensin
B.L. Damron and R.H. Harms 731

Effect of Dietary Sterol on Lipid Peroxidation in Vitamin E-Deficient Rats
M.M. Bechtold and A.L. Tappel 741

Nutritional Properties of Mango Kernel Fat Relative to Some Edible Oils
V. Radhakrishnan, E.R.B. Shanmugasundaram, K.R. Shanmugasundaram and G.S. Laddha . 747

Metabolism of Xenobiotics in Undernourished Rats: Regulation by Dietary Energy and Protein Levels
R. Kalamegham, N.A. Naidu and K. Krishnaswamy 755

Ascorbic Acid Retention of Stored Dehydrated Nigerian Vegetables
A.A.Addo 769

Comparison of Hepatic Cytochrome P-450 Levels of Obese Mice and Nonobese Mice
J.L. Dorsey and J.T. Smith 777

Effects of Elfazepam on Feeding Behavior, Feed Intake and Nutrient Utilization by the Dog
D.E. Brown, H.J. Fottler, J.L. Pugh, G.C. Fahey, Jr., and J.E. Corbin 785

Biological Value, Amino Acid Availability and True Metabolizable Energy of Low-Glucosinolate Rapeseed Meal (Canola) Determined with Rats and/or Roosters
L.D. Campbell, B.O. Eggum and I. Jacobsen 791

Effect of Trypsin Inhibitor From Alfalfa Meal on Rat Growth
H.L. Mitchell and D.B. Parrish 799

β Globulin to Albumin Ratio as Index of Dietary Protein Quality
N.H. Slobodianik, R. Farina, M.E. Rio and J.C. Banahuja 803

Massive Ingestion of Vitamin C and Food Consumption, Body Weight, and Kidney Morphology in Guinea Pigs
R.E. Keith, K.G. Libke and J.A. Driskell 811

Nutritional Evaluation of the Velvet Bean (Stizolobium cinerium) Alone and Supplemented With Methionine or Wheat Flour
A. de la Vega, F. Giral and A. Sotelo 817

Effect of Lactation on Maternal Haemoglobin Levels
K. Prema, R. Madhavapeddi, B.A. Ramalakshmi, S. Samyukta and S. Babu 825

Evaluation of Daily Nutrient Requirements Based on Daily Nutrient Intake of Four Strains of Laying Hens. I. From Thirty-seven to Fifty-two Weeks of Age in Cool Weather.
R.B. Christmas and R.H. Harms 831

Lipoprotein Lipase Activity of Adipose Tissue in Rats Fed Ad Libitum and Refed a Diet Containing Glucose or Fructose
Y. Aoyama, Y. Hattori, A. Yoshida and K. Ashida 839

The Effects of Feeding Various Complex Carbohydrates and Simple Sugars at Increasing Concentrations on Growth of Tribolium Larvae
A.M. Rogel and P. Vohra 847

NUTRITION REPORTS INTERNATIONAL

Volume 24, Number 5 November 1981

ORIGINAL ARTICLES

Postnatal Growth of Progeny of Rats Fed Protein-Free Diet During Pregnancy
H.H. Srebnik and J.M. Budd 855

Uptake Dynamics of Digestion Products of ^{125}I-Labeled Peptides of Varying Molecular Weight in Three-Day-Old Chicks
B. Hunter and M. Chvapil 867

Interrelationships Between Serum Proteins and Urea Nitrogen/Creatinine Index, in Children
N.H. Slobodianik, S. Friedman, S.J. Closa and M.E. Rio 875

The Effect of Protein Deficiency on Weight Gain and Body Composition in the Developing Rat
J.R. Galler and K.J. Propert 885

Changes in Anthropometric Indices of Nutritional Status in Lactating Women
K. Prema, R. Madhavapeddi and B.A. Ramalakshmi 893

Studies on Erythrocytes in Retinol Deficiency: Erythrocyte Membrane Proteins and Anion (Sulphate) Permeability
T.P. Krishnakanth, L. Srinivas, K. Singh and P.B.R. Rao 901

Sucrose-Induced Hypertriglyceridaemia: Relation to HDL-Cholesterol and to Physical Fitness
R. Fears, H.P. Glenny, J.A. Tredger and R. Lindsay 909

Effect of Dietary Protein and Phosphorus Levels on Calcium and Phosphorus Metabolism of Adult Rats
J.C. Howe and G.R. Beecher 919

Effect of Maternal Dietary Lysine Level and Food Restriction on Maternal, Fetal and Offspring Tissue Carnitine Levels in the Rat
M.J. Taylor and P. Stapleton 931

Iron-59 and Manganese-54 Metabolism in Suckling Rats Pretreated with Iron-Fortified Milk
N. Gruden and M. Buben 943

Effect of Diet on Serum Protein in Early Stages of Schistosomiasis
M.T.A. Aziz, K.A. Fahmy, E.S. El-Raziky, H.E. El-Naggar and S. Tharwat 951

Lipid Composition of Finished Fried Potatoes in Relation to Partially Fried Potatoes and Frying Oils
R. Aust and L.U. Thompson 957

Teeth as Index to Health and Age in Bangladeshi Children
M. Khan, J. Chakraborty and S.R. Paul 963

Utilization of Poor Quality Roughages: The Replacement Value of Urea for Groundnut Cake in Sheep Growing Diets
N.N. Umunna 973

Comparison of Two Methods for Determining Protein and Lipid in Human Colostrum and Mature Milk
J.G. Dorea, M.R. Horner, V.L. Bezerra and L.A. Borgo 985

The Effects of Moderate Magnesium Deficiency in the Rat
P.W.F. Fischer, A. Giroux, M.R. L'Abbe and E.A. Nera 993

Effect of Wheat Gluten on Cholesterol Metabolism in Growing Rats
P. Einav, S. Mokady and U. Cogan 1001

The Use of Brewers Dried Grains by Laying Hens
O.C. Onwudike 1009

Effects of Ascorbic Acid in Casein vs. Sorghum Grain Diets in Guinea Pigs
C.F. Klopfenstein, E. Varriano-Marston and R.C. Hoseney 1017

Cohesive Characteristics of Cerium as an Inert Marker of Fibrous Feedstuffs
L.H. Harbers, M.J. Arambel and E.E. Bartley 1029

Fatty Acid Synthesis, Lipolysis and Lactate Oxidation in Adipose Tissue from Normal and Stress-Susceptible Pigs
M.A. Pothoven, D.C. Beitz, R.L. Hood and L.L. Christian 1037

Effect of Molecular Weight of Protein on Growth of Tetrahymena Pyriformis
B. Hunter, M. Chvapil, D. Tharp and L.B. Colvin 1043

The Role of Plant Epidermal Silica as a Structural Inhibitor of Rumen Microbial Digestion in Steers
L.H. Harbers, D.J. Raiten and G.M. Paulsen 1057

Influence of Dietary Tryptophan on the Activity of Intestinal Digestive Enzymes
A.P.N. Majumdar 1067

NUTRITION REPORTS INTERNATIONAL
Volume 24, Number 6 December 1981

ORIGINAL ARTICLES

Relationship Between Fiber Rich Foods and Serum Sterols in Guinea Pigs
A.W. Knehans, G.L. Johanning and B.L. O'Dell 1075

Nutritional Improvement of Beans (Phaseolus vulgaris) by Autoclaving or Water Extraction for Tribolium Castaneum Larvae
G. Shariff, A.M. Penz, Jr. and P. Vohra 1087

Effects of Oat Bran, Oat Gum and Pectin on Lipid Metabolism of Cholesterol-Fed Rats
W.J.L. Chen, J.W. Anderson and M.R. Gould 1093

Effects of Ascorbic Acid in Guinea Pigs Fed Millet and Sorghum Grain Diets
C.F. Klopfenstein, R.C. Hoseney and E. Varriano-Marston 1099

Seasonal Variations in the Quantity of Carbohydrate, Protein Lipid and Crude Fibre Components of the Food of Sarotherodon Galilaeus (Syn Tilapia Galilaea) (Fam: Cichlidae) of Lake Kainji, Nigeria
E.A. Akintunde 1109

Vitamin A Status and Esophageal Cancer Risk: Epidemiologic and Experimental Evidence for a Positive Association
S.J. van Rensburg, E.F. Kruger, M.E.J. Louw and J.P. du Plessis 1123

Potentially Toxic Vitamin Supplementation Practices Among Adults in Seven Western States
M.H. Read, V. Bhalla, I. Harrill, R. Bendel, J.E. Monagle, H.G. Schutz, E.T. Sheehan, and B.R. Standal 1133

Proximate Composition and Minerals Nutrient Content of University Meals
U. Srivastava, S.L. Makhija, M. Nadeau, A.K. Rakshit, N. Carbonneau, L. Guennou, and I. Khare 1139

Muscle and Plasma Amino Acid Composition in the Pair-Fed Potassium Depleted Rat
J. Arnauld, J. Zaretsky and F.A. Lachance 1153

Effect of Dietary Level of Protein on Turnover of Tissue Proteins in Protein Depleted Rats
K. Hayase and A. Yoshida 1163

A Non-Invasive Technique for Assessing Pancreatic Function in Rats Fed Raw or Heated Soybean Diets
S.S. Lee and I.E. Liener 1173

Kinetics of High Density Lipoprotein Cholesterol in Copper-Deficient Rats
K.Y. Lei and I.M. Lin 1179

Hypolipidemic Effect of Substituting Soybean Protein Isolate for All Meat and Dairy Protein in the Diets of Hypercholesterolemic Men
B.M. Wolfe, P.M. Giovannetti, D.C.H. Cheng, D.C.K. Roberts and K.K. Carroll . . . 1187

Tissue Protein Synthetic Activity in Trenbolone Acetate-Treated Mice
L.E. Carrington and L.C. Ward 1199

Antioxidant and Hemolytic Functions of Retinol
T. George, P.S. Kumar, N.J. Rai and S. Krishnamurthy 1205

Modification of Liver Cholesterol Accumulation by Dietary Fiber in Rats
J.A. Story, A. Baldino, S.K. Czarnecki and D. Kritchevsky 1213

Nitrogen Balance Studies in Female College Students
A. Vijayalakshmi, P.R. Reddy and C. Leitzmann 1221

Supplementary Effects of Leaf Protein Concentrate and Amino Acids to a Barley Bran on Nutritive Value and Plasma Amino Acid Concentrations in Growing Pigs
M. Oshima, M. Tamai and H. Ueda 1233

Microbial Protein Synthesis in Relation to Rumen and Duodenal Ammonia Concentrations
A.U. Okorie 1241

Seasonal Variability of Nutritive Value of the Fish Blue Whiting (Micromesistius poutassou)
O.A. Afolabi and O.L. Oke 1251

Supplementation of Cassava/Urea Based Rations with Elemental Sulphur for Sheep and Goats: Effect on Growth, Ruminal, Serum and Urinary Thiocyanate Concentrations
O.O. Tewe 1263

Cohesive Characteristics of Dysprosium as an Inert Marker of Feedstuffs
L.H. Harbers, M.J. Arambel and E.E. Bartley 1271

Lowered Blood Glucose with Human Fasting, Exercise and Carbohydrate Diet
J.D. Brooke 1279

Protein Needs for Laying Japanese Quail as Influenced by Protein Level and Amino Acid Supplementation
G.H. Arscott and M. Pierson-Goeger 1287

Haemolytic Toxic Factors in Faba Beans (Vicia Faba): Biological and Chemical Assays
M. D'Aquino, G. Zaza, E. Carnovale, S. Gentani and M.A. Spadoni 1297

AUTHOR INDEX 1307

SUBJECT INDEX 1313